

# PIPELINE SAFETY: REVIEWING THE STATUS OF MANDATES AND EXAMINING ADDITIONAL SAFETY NEEDS

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(116-9)

## HEARING

BEFORE THE

SUBCOMMITTEE ON RAILROADS, PIPELINES,  
AND HAZARDOUS MATERIALS

OF THE

COMMITTEE ON  
TRANSPORTATION AND  
INFRASTRUCTURE

HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

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(III)



## CONTENTS

	Page
Summary of Subject Matter .....	vii
STATEMENTS OF MEMBERS OF CONGRESS	
Hon. Daniel Lipinski, a Representative in Congress from the State of Illinois, and Chair, Subcommittee on Railroads, Pipelines, and Hazardous Mate- rials:	
Opening statement .....	1
Prepared statement .....	3
Hon. Eric A. “Rick” Crawford, a Representative in Congress from the State of Arkansas, and Ranking Member, Subcommittee on Railroads, Pipelines, and Hazardous Materials:	
Opening statement .....	4
Prepared statement .....	5
Hon. Peter A. DeFazio, a Representative in Congress from the State of Or- egon, and Chair, Committee on Transportation and Infrastructure:	
Opening statement .....	6
Prepared statement .....	6
WITNESSES	
MEMBER PANEL	
Hon. Lori Trahan, a Representative in Congress from the State of Massachu- setts:	
Oral statement .....	8
Prepared statement .....	9
Hon. Seth Moulton, a Representative in Congress from the State of Massa- chusetts:	
Oral statement .....	11
Prepared statement .....	12
PANEL 1	
Hon. Howard “Skip” Elliott, Administrator, Pipeline and Hazardous Materials Safety Administration:	
Oral statement .....	14
Prepared statement .....	15
Hon. Jennifer Homendy, Member, National Transportation Safety Board:	
Oral statement .....	21
Prepared statement .....	22
PANEL 2	
Carl Weimer, Executive Director, Pipeline Safety Trust:	
Oral statement .....	59
Prepared statement .....	61
Andrew J. Black, President and CEO, Association of Oil Pipe Lines:	
Oral statement .....	77
Prepared statement .....	79
Fire Chief Dan Eggleston, EFO, CFO, CMO, President and Chairman of the Board, International Association of Fire Chiefs:	
Oral statement .....	80
Prepared statement .....	82

## VI

	Page
Richard B. Kuprewicz, President, Accufacts Inc.:	
Oral statement .....	85
Prepared statement .....	87
Robin Rorick, Vice President of Midstream and Industry Operations, American Petroleum Institute:	
Oral statement .....	90
Prepared statement .....	91
Elgie Holstein, Senior Director for Strategic Planning, Environmental Defense Fund:	
Oral statement .....	97
Prepared statement .....	98

### SUBMISSIONS FOR THE RECORD

Letter of March 8, 2016, from Calvin L. Scovel III, Inspector General, U.S. Department of Transportation, Submitted for the Record by Hon. DeFazio ..	115
Statement of the Interstate Natural Gas Association of America, Submitted for the Record by Hon. Lipinski .....	116
Statement of the American Gas Association, Submitted for the Record by Hon. Lipinski .....	116

### APPENDIX

Questions from Hon. Peter A. DeFazio for Hon. Howard “Skip” Elliott .....	117
Question from Hon. Daniel Lipinski for Hon. Howard “Skip” Elliott .....	118
Questions from Hon. Lizzie Fletcher for Hon. Howard “Skip” Elliott .....	119
Questions from Hon. Mike Bost for Hon. Howard “Skip” Elliott .....	119
Question from Hon. Stephen F. Lynch for Hon. Jennifer Homendy .....	120
Question from Hon. Mike Bost for Andrew J. Black .....	120
Question from Hon. Donald M. Payne, Jr. for Fire Chief Dan Eggleston, EFO, CFO, CMO .....	121



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U.S. House of Representatives  
Washington, DC 20515

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MARCH 29, 2019

**SUMMARY OF SUBJECT MATTER**

TO: Members, Subcommittee on Railroads, Pipelines, and Hazardous Materials  
FROM: Staff, Subcommittee on Railroads, Pipelines, and Hazardous Materials  
RE: Subcommittee Hearing on “Pipeline Safety: Reviewing the Status of Mandates and Examining Additional Safety Needs”

**PURPOSE**

The Subcommittee on Railroads, Pipelines, and Hazardous Materials will meet on Tuesday, April 2, 2019, at 10:00 a.m. in HVC 210, Capitol Visitor Center, to receive testimony related to “Pipeline Safety: Reviewing the Status of Mandates and Examining Additional Safety Needs.” The purpose of the hearing is to consider the status of safety rulemakings that Congress previously has mandated, as well as to examine the safety of the Nation’s gas and hazardous liquid pipelines and facilities and how to respond to gaps or needs that exist. The Subcommittee will receive testimony from the Pipeline and Hazardous Materials Safety Administration; the National Transportation Safety Board; Accufacts, Inc.; the American Petroleum Institute; the Association of Oil Pipe Lines; the Environmental Defense Fund; the International Association of Fire Chiefs; and, the Pipeline Safety Trust.

**BACKGROUND**

**About the Agency**

The Pipeline and Hazardous Materials Safety Administration (PHMSA) was created under the Norman Y. Mineta Research and Special Programs Improvement Act of 2004 (P.L. 108-426) (“2004 Act”). Prior to enactment of the 2004 Act, the Department of Transportation’s (DOT) Research and Special Programs Administration administered the DOT’s pipeline and hazardous materials safety programs. PHMSA’s mission is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives. The 2004 Act established that PHMSA “shall consider the assignment and maintenance of safety as the highest priority . . .” PHMSA is charged with the safe and secure movement of over one million daily shipments of hazardous materials by all modes of transportation. PHMSA oversees the nation’s 2.7 million miles<sup>1</sup> of gas and hazardous liquid pipelines, which account for the transportation of 65 percent of the energy commodities consumed in the United States.

The first statute regulating pipeline safety was the Natural Gas Pipeline Safety Act of 1968 (P.L. 90-481), which Congress amended in 1976 (P.L. 94-477). Congress added hazardous liquid pipelines to the statute in the Pipeline Safety Act of 1970 (P.L. 96-129). Subsequent bills included the Pipeline Safety Reauthorization Act of 1988 (P.L. 100-561), the Pipeline Safety Act of 1992 (P.L. 102-508), the Accountable Pipeline Safety and Partnership Act of 1996 (P.L. 104-304), the Pipeline Safety Improvement Act of 2002 (P.L. 107-355), the Norman Y. Mineta Research and Special Programs Improvement Act of 2004 (P.L. 108-426), the Pipeline Inspection, Protection, Enforcement and Safety Act of 2006 (P.L. 109-468), the Pipelines Safety, Regulatory Certainty, and Job Creation Act of 2011 (P.L. 112-90), and the Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016 (P.L. 114-183). These authorizing Acts provide for Federal safety regulation of facilities used in the trans-

<sup>1</sup> There are an estimated 2,757,650 miles of pipelines under PHMSA’s jurisdiction, of which 2,223,212 are for distribution of natural gas, 300,655 for transmission of natural gas, an estimated 18,380 for gathering of natural gas, and 215,628 for hazardous liquids.

portation of gases and hazardous liquids by pipeline. The current authorization expires on September 30, 2019.

### **Pipeline Safety Framework**

Safety regulations differ depending on the nature of the pipeline and the commodity that is moving through it. PHMSA's regulations govern pipelines and facilities that transport natural gas (49 CFR 192) separately from those that transport hazardous liquid (49 CFR 195). Additionally, the pipelines and facilities used to transport natural gas and hazardous liquids vary in operating pressures, diameter size, intended purpose, and proximity to populated areas. These include:

*Distribution pipelines* transport natural gas to commercial and residential end-users. Gas distribution pipelines tend to be smaller in diameter and operate at lower pressures. PHMSA estimates there are 2.23 million miles of gas distribution lines, much of which are intrastate pipelines. There are no hazardous liquid distribution pipelines.

*Transmission pipelines* transport natural gas from treatment and processing facilities to bulk customers, storage facilities, and local gas distribution networks. Transmission pipelines can range in size from several inches to several feet in diameter and are designed to operate from relatively low pressures to high pressures. These lines can operate within a single State or span hundreds of miles, crossing one or more State lines. PHMSA estimates there are 300,655 miles of interstate and intrastate gas transmission lines.

*Gathering lines* transport natural gas from the production site to a central collection point. Historically, gathering lines were built in lower populated areas, had smaller diameters than transmission lines, and operated at pressures and flow lower than transmission lines. However, as new gas development occurs around the country, producers are installing new gathering systems in higher populated areas and building larger diameter and higher pressure gathering lines.<sup>2</sup> PHMSA currently regulates 18,380 miles of gas gathering lines, which leaves an estimated 438,884 miles of gas gathering lines unregulated.<sup>3</sup> PHMSA does not maintain records on incidents involving these unregulated gathering lines, nor are the lines required to be regularly inspected, built to specified standards, or required to have emergency response plans in place. To address this safety risk, PHMSA has proposed regulations to collect information and set Federal minimum standards on certain gathering lines.<sup>4</sup>

*Hazardous liquid pipelines* transport liquid petroleum from sources of origin to refineries and chemical plants, and in some cases to storage facilities or distribution terminals. According to PHMSA, hazardous liquids traverse the United States through 215,628 miles of hazardous liquid pipelines, of which an estimated 4,000 miles<sup>5</sup> are gathering lines. Approximately 30,000-40,000 miles of onshore hazardous liquid gathering lines are unregulated.<sup>6</sup>

*Liquefied natural gas (LNG) facilities* are used for converting, transporting, or storing LNG. There are several Federal agencies involved in the regulation of LNG.<sup>7</sup> Historically, PHMSA has regulated peakshaving facilities<sup>8</sup> and satellite facilities<sup>9</sup> where LNG has been used to manage capacity during times of peak demand. PHMSA also regulates import ter-

<sup>2</sup>Pipeline and Hazardous Materials Safety Administration, Notice of Proposed Rulemaking, Pipeline Safety: Safety of Gas Transmission and Gathering Pipelines, PHMSA-2011-0023, April 8, 2016.

<sup>3</sup>Pipeline and Hazardous Materials Safety Administration, Safety of Gas Gathering Pipelines Presentation, Gas Pipeline Advisory Committee Meeting January 8-9, 2019 (Version 12/21/2019). <https://primis.phmsa.dot.gov/meetings/FilGet.mtg?fil=1029>.

<sup>4</sup>*Id.*

<sup>5</sup>Pipeline and Hazardous Materials Safety Administration, Notice of Proposed Rulemaking, Pipeline Safety: Safety of Hazardous Liquid Pipelines, PHMSA-2010-0229, October 13, 2015.

<sup>6</sup>*Id.*

<sup>7</sup>PHMSA generally regulates LNG facilities if the facility either receives from or delivers to a pipeline regulated by PHMSA. See 49 CFR 193.2001.

<sup>8</sup>These facilities receive natural gas from gas transmission pipelines during warm months, liquefy the gas, and store the liquefied gas until cold weather when it is needed, and are located primarily in the Northeast.

<sup>9</sup>These facilities have storage and vaporization capabilities, but do not liquefy gas. Natural gas is often trucked to these facilities and stored until the energy is needed, at which time it is put into a gas pipeline.



minals.<sup>10</sup> However, market dynamics have changed such that there has been a rapid growth in export terminals. At these terminals, large quantities of natural gas are liquefied and stored for transport aboard specialized tanker ships for export markets. PHMSA has announced plans to fully update its LNG regulations to address these changes in the industry and to comply with a 2016 mandate from Congress.<sup>11</sup> The agency is drafting a Notice of Proposed Rulemaking.

### **PHMSA's Pipeline Safety Oversight**

PHMSA's pipeline safety functions include developing, issuing, and enforcing regulations for the safe transportation of natural gas (include liquefying natural gas) and hazardous liquids by pipeline. PHMSA sets Federal minimum safety standards. The agency's regulatory programs are focused on the design, construction, operation, and maintenance or abandonment of pipeline facilities, and in the construction, operation, and maintenance of liquefied natural gas facilities. The agency only has jurisdiction over transportation-related facilities; it does not have jurisdiction over drilling or production facilities.

PHMSA carries out its regulatory functions through its Office of Pipeline Safety (OPS), whose purpose is to carry out a national program to ensure the safe, reliable, and environmentally-sound operation of the nation's natural gas and hazardous liquid pipeline transportation system.

PHMSA has long-experienced difficulty in recruiting and maintaining an inspection workforce capable of meeting PHMSA's oversight needs, as PHMSA often competes against the regulated industry for personnel. Congress has previously increased the number of Federal pipeline safety inspectors and directed the Office of Inspector General to study PHMSA's continued staffing needs and potential solutions. In Fiscal Year 2018, PHMSA received funding to support 308 OPS staff positions. As of September 2017, 292 of those positions were filled, of which 205 performed inspection and enforcement functions.<sup>12</sup>

PHMSA's regulations also address the workforce to help ensure their actions maintain the safety of the Nation's pipelines. For instance, PHMSA requires pipeline operators and their contractors to conduct drug and alcohol testing programs; however, some pipeline workers performing safety-sensitive functions on master meter systems and pipeline systems that transport only petroleum gas or petroleum gas/air mixtures are exempt from these programs. Pipeline operators based in Canada or Mexico who maintain and control hundreds of miles of pipelines in the United States are also exempt. In addition, PHMSA regulations require operators to develop and adopt qualification programs to ensure that those performing certain operations and maintenance tasks are qualified to do so.

When violations of PHMSA's regulations occur, the agency has several enforcement mechanisms it can use to require pipeline operators to regain compliance with the regulations. These tools include the issuance of a warning letter,<sup>13</sup> a notice of probable violation,<sup>14</sup> or a corrective action order.<sup>15</sup> The agency may issue fines for non-compliance. In 2018, PHMSA initiated 199 enforcement cases<sup>16</sup> related to a range of violations, such as failure to comply with Operator Qualification programs, emergency response plans, and integrity management program regulations, among others.

<sup>10</sup> LNG tanker ships are used to supply marine import terminals with LNG, where it is then transferred into large storage tanks to be withdrawn, vaporized, and supplied to gas transmission pipelines.

<sup>11</sup> Office of Information and Regulatory Affairs, Office of Management and Budget, Executive Office of the President. <https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201810&RIN=2137-AF45.7>

<sup>12</sup> Pipeline and Hazardous Materials Safety Administration, Report to Congress on the Office of Pipeline Safety's FY 2017 Actual Staffing and FY 2018 Hiring Plan, September 5, 2018.

<sup>13</sup> See 49 CFR 190.205; this letter notifies the operator of alleged violations and directs them to correct the violation or be subject to additional enforcement action.

<sup>14</sup> See 49 CFR 190.207; these notices, commonly issued after routine inspections, incident investigations, and other activity, allege specific regulatory violations and propose remedial action or civil penalties.

<sup>15</sup> See 49 CFR 190.233; these orders are issued when a particular situation represents a serious hazard to life, property, or the environment and directs certain actions to be taken, up to and including shutdown of the pipeline system.

<sup>16</sup> Pipeline and Hazardous Materials Administration, Summary of Enforcement Activity—Nationwide. <https://primis.phmsa.dot.gov/comm/reports/enforce/EnfHome.html?nocache=2062>.

While PHMSA regulations are focused on safety, there are also concerns for pipeline cyber security vulnerabilities.<sup>17</sup> PHMSA has signed an annex to its memorandum of understanding with the Transportation Security Administration (TSA) that identifies TSA as the lead entity for pipeline security and PHMSA as responsible for administering a national program of safety in natural gas and hazardous liquid pipeline transportation, including identifying pipeline safety concerns and developing uniform safety standards. In a recent report, the Government Accountability Office (GAO) was critical of TSA's efforts to protect these assets, identifying significant staffing limitations exist and that TSA is unable to ensure that its voluntary Pipeline Security Guidelines reflect the latest known standards and best practices.<sup>18</sup>

#### **States' Pipeline Safety Oversight**

PHMSA supports this regulatory work by authorizing States to assume certain aspects of pipeline safety for intrastate gas pipelines, hazardous liquid pipelines, and underground natural gas storage through certifications and agreements with PHMSA under 49 U.S.C. §§ 60105 and 60106(a). The agency also authorizes States with certifications to participate in the oversight of interstate pipeline transportation through agreements under 49 U.S.C. § 60106(b).

To conduct inspection and enforcement of intrastate gas and hazardous liquid pipelines and facilities, each State must annually certify their pipeline safety program by demonstrating to the Secretary that it: has adopted, or is taking steps to adopt, the Federal standards; is enforcing each standard through inspections; and is encouraging and promoting the establishment of damage prevention programs. Each annual certification must include a report that contains: all accidents or incidents reported to the State over the prior 12 months involving a fatality, personal injury requiring hospitalization, or property damage or loss of more than \$50,000, or any other accident the State considers significant, and a summary of the investigation by the State of the cause and circumstances surrounding the accident or incident. The report also must include the record maintenance, reporting, and inspection practices conducted by the State to enforce compliance with Federal safety standards, including the number of inspections of pipeline facilities the authority made during the prior 12 months.<sup>19</sup>

States with certified pipeline safety programs may impose additional standards for intrastate pipelines and facilities so long as they are compatible with the minimum Federal standards issued by PHMSA. Separate certification is necessary for gas and hazardous liquid safety programs. In calendar year 2019, 51 State agencies<sup>20</sup> have certified natural gas safety programs, and 15 States agencies<sup>21</sup> have certified hazardous liquid safety programs. If States did not participate in the pipeline safety or underground natural gas storage programs, the inspection and enforcement of these intrastate pipeline and underground natural gas storage facilities would be PHMSA's responsibility.

A State that does not satisfy the criteria for certification may enter into an agreement<sup>22</sup> to undertake certain aspects of the pipeline or underground natural gas safety program for intrastate pipeline facilities on behalf of PHMSA. While this agreement allows a State to perform inspections, probable violations are reported to PHMSA for enforcement action. In calendar year 2019, two state agencies have such natural gas agreements with PHMSA.<sup>23</sup>

The Secretary also is authorized to enter into an interstate agent agreement with a State with a certified pipeline safety program, allowing the State to participate

<sup>17</sup> Statement for the Record, Director of National Intelligence Dan Coats, Senate Select Committee on Intelligence, January 29, 2019. *Referencing* Worldwide Threat Assessment of the US Intelligence Community (2019): "China has the ability to launch cyber attacks that cause localized, temporary disruptive effects on critical infrastructure—such as disruption of a natural gas pipeline for days to weeks—in the United States." <https://www.dni.gov/files/ODNI/documents/2019-ATA-SFR---SSCI.pdf>.

<sup>18</sup> Government Accountability Office, Critical Infrastructure Protection, Actions Needed to Address Significant Weaknesses in TSA's Pipeline Security Program Management, GAO-19-48, December 2018.

<sup>19</sup> 49 U.S.C. § 60105.

<sup>20</sup> Pipeline and Hazardous Materials Safety Administration, 2019 State Program Certification Agreement Status (Appendix F). <https://www.phmsa.dot.gov/working-phmsa/state-programs/2019-appendix-f-state-program-certification-agreement-status-pdf>.

<sup>21</sup> *Id.*

<sup>22</sup> 49 U.S.C. § 60106(a).

<sup>23</sup> Pipeline and Hazardous Materials Safety Administration, 2019 State Program Certification Agreement Status (Appendix F). <https://www.phmsa.dot.gov/working-phmsa/state-programs/2019-appendix-f-state-program-certification-agreement-status-pdf>.

in the oversight of interstate pipeline transportation.<sup>24</sup> For such an agreement, the Secretary must determine that: the agreement is consistent with the Federal inspection program and Federal safety policies; the State's interstate participation would not adversely affect its intrastate oversight responsibilities; the State meets federal minimum One-Call standards and is carrying-out a program demonstrated to promote preparedness and risk prevention activities; and the actions planned under the agreement would not impede interstate commerce or impede safety. The agency historically has used interstate agent agreements to supplement its Federal inspector workforce. State pipeline safety and underground natural gas storage programs provide a local presence for protecting the public from pipeline and underground natural gas storage incidents. In calendar year 2019, eight State agencies<sup>25</sup> acted as certified interstate agents for natural gas pipelines, and five were certified interstate agents for hazardous liquid pipelines.<sup>26</sup>

To support these State efforts, PHMSA administers grants providing up to 80 percent of the total cost of the personnel, equipment, and activities reasonably required for a State to carry-out certified pipeline safety programs or an agreement. Subject to annual appropriations, the actual reimbursement rate depends upon the availability of appropriated funds and the performance of a State's pipeline safety program.

### Pipeline Safety Incidents

Despite this oversight, pipeline incidents resulting in injuries and fatalities continue to occur. In 2018 alone, PHMSA reported 633 pipeline incidents, more than half of which were designated as serious or significant.<sup>27</sup> These incidents resulted in eight fatalities, 92 injuries, and nearly \$1 billion in damage. From 1999-2018, PHMSA reported 11,992 pipeline incidents, which resulted in 317 deaths, 1,302 injuries, and more than \$8.1 billion in damage. Incidents have increased nearly two-fold from 1999 to 2018.<sup>28</sup>

Among last year's fatal incidents was the over-pressurization event on September 13, 2018, involving the Columbia Gas distribution system in Merrimack Valley, Massachusetts. High-pressure natural gas was released into the low-pressure gas distribution system, resulting in a series of explosions and fires that killed one person, sent 21 others, including two firefighters, to the hospital, and damaged 131 structures in the city of Lawrence and the towns of Andover and North Andover. In its preliminary report, the National Transportation Safety Board (NTSB) reported that a contracted crew was performing a Columbia Gas-developed and -approved pipe replacement project at a nearby intersection, working on a tie-in project of a new plastic distribution main and the abandonment of a cast-iron distribution main.<sup>29</sup> The Columbia Gas-designed plan did not consider that the cast-iron main to be abandoned had regulator sensing lines used to detect pressure in the system and to provide input to the regulators that control the system pressure. Once abandoned, the section containing the sensing lines began to lose pressure, causing the regulators to open further to increase pressure in the distribution system, eventually opening fully. While the Columbia Gas monitoring center in Columbus, Ohio received high-pressure alarms, it had no remote-control capability to close the valves; the valves were closed more than three hours after the first alarm.

The NTSB identified that neither Massachusetts nor Columbia Gas had a policy to require a registered professional engineer to develop or review public utility engineering plans,<sup>30</sup> and that the Commonwealth's Meter and Regulation department

<sup>24</sup> 49 U.S.C. § 60106(b).

<sup>25</sup> Pipeline and Hazardous Materials Safety Administration, 2019 State Program Certification Agreement Status (Appendix F). <https://www.phmsa.dot.gov/working-phmsa/state-programs/2019-appendix-f-state-program-certification-agreement-status-pdf>.

<sup>26</sup> *Id.*

<sup>27</sup> In 2018, 40 serious incidents and 286 significant incidents occurred. Serious incidents are those that include a fatality or injury requiring in-patient hospitalization. Significant incidents are those that include a fatality or injury requiring in-patient hospitalization, \$50,000 or more in total costs, highly volatile liquid releases of five barrels or more or other liquid release of 50 barrels or more, or liquid releases resulting in an unintentional fire or explosion.

<sup>28</sup> Pipeline and Hazardous Materials Safety Administration, Pipeline Incident 20 Year Trends. <https://cms.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-incident-20-year-trends>

<sup>29</sup> National Transportation Safety Board, Preliminary Report, Over-pressure of a Columbia Gas of Massachusetts Low-pressure Natural Gas Distribution System, Merrimack Valley, Massachusetts, PLD18MR003, September 13, 2018. <https://www.nts.gov/investigations/AccidentReports/Reports/PLD18MR003-preliminary-report.pdf>.

<sup>30</sup> Federal law and PHMSA's regulations do not require review and approval of plans by a professional engineer. At the time of the incident, the Commonwealth of Massachusetts had a professional engineer licensing exemption for public utilities. On December 31, 2018, the Governor

that has control of line information was not required to review the project.<sup>31</sup> In response to this incident, the NTSB recommended that the Commonwealth of Massachusetts eliminate the professional engineer licensure exemption for public utility work and require a professional engineer's seal on public utility engineering drawings. The NTSB recommended that Columbia Gas's parent company, NiSource, Inc., revise the engineering plan and constructability review process to ensure all applicable departments review construction documents and that the documents be sealed by a professional engineer; ensure records and documentation of the natural gas systems are traceable, reliable, and complete; apply management of change processes to all changes to adequately identify system threats;<sup>32</sup> and develop and implement additional controls to mitigate risks.<sup>33</sup>

In a separate event taking place on August 9, 2018, a gas gathering line owned by Targa Pipeline Mid-Continent WestTex caused an explosion to a mobile home structure in rural Midland County, Texas. After the structure exploded, first responders attempted to put out the blaze, but it continued to relight. Targa employees were able to isolate the gathering line by closing the valves, after which the fire lost fuel and burned out. Targa's third-party investigators determined that the coal tar coating and steel pipe wall had been compromised with a hole approximately  $\frac{3}{8}$  inch by  $\frac{5}{8}$  inch and had been leaking for an undetermined length of time. Four people were injured and one later died.

Another incident occurred on February 23, 2018. Over a series of two days, three homes in a neighborhood served by the same 2-inch wrapped steel Atmos Energy pipeline experienced gas-related events, including an explosion that killed a 12-year old child and injured the other four family members. The preliminary report from the NTSB noted that due to the nature and number of leaks discovered in the neighborhood, more than 300 residences were evacuated.<sup>34</sup> The operator identified multiple leaks in the neighborhood and had performed various repair work prior to and during the days the three events occurred. NTSB investigators identified three sections of the pipe that failed a pressure test and noted that the pipe located behind the home that exploded was cracked.

PHMSA's data shows that in 2017, there were 648 incidents that resulted in 19 fatalities and 34 injuries.<sup>35</sup> The 2017 data includes the August 2, 2017, natural gas explosion that occurred at a school in Minneapolis, Minnesota that resulted in the death of two individuals.<sup>36</sup> In 2016, there were 633 incidents that resulted in 16 fatalities and 87 injuries.<sup>37</sup>

Already in 2019, the NTSB has begun investigating a natural gas line strike and fire. On February 6, 2019, a third-party-contractor was excavating for fiber optic conduit installation in San Francisco, California when the contractor struck a Pacific Gas & Electric (PG&E) 2-inch natural gas main, releasing gas and igniting a fire.<sup>38</sup> Fortunately, there were no injuries or fatalities, but about 100 people were evacuated and the fire burned for more than two hours until PG&E personnel could isolate and shut down the gas line, removing the fuel source. The NTSB noted in the preliminary report that the investigation will focus on the third-party contractor's preparedness and qualifications to perform the excavation work and the execution of PG&E and local first responders' emergency response plans.

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of Massachusetts signed into law a requirement that all natural gas work that might pose a material risk to the public be reviewed and approved by a certified professional engineer. See Mass. Gen. L. c. 112 § 81R; Mass Gen. L. c. 164 § 148.

<sup>31</sup> National Transportation Safety Board, Safety Recommendation Report, Natural Gas Distribution System Project Development and Review (Urgent), adopted November 14, 2018. <https://www.nts.gov/investigations/AccidentReports/Reports/PSR1802.pdf>.

<sup>32</sup> Management of Change is a central tenant of safety management systems and was incorporated into API's Recommended Practice (RP) 1173 in July 2015. For more information, see <https://pipelinesms.org/>.

<sup>33</sup> National Transportation Safety Board, Safety Recommendation Report, Natural Gas Distribution System Project Development and Review (Urgent), adopted November 14, 2018. <https://www.nts.gov/investigations/AccidentReports/Reports/PSR1802.pdf>.

<sup>34</sup> National Transportation Safety Board Preliminary Report, February 23, 2018. <https://www.nts.gov/investigations/AccidentReports/Reports/PLD18FR002-preliminary.pdf>.

<sup>35</sup> Pipeline and Hazardous Materials Safety Administration, Pipeline Incidents (2017). <https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Portalpages>.

<sup>36</sup> National Transportation Safety Board Preliminary Report, August 2, 2017. <https://www.nts.gov/investigations/AccidentReports/Pages/DCA17MP007-prelim-report.aspx>.

<sup>37</sup> Pipeline and Hazardous Materials Safety Administration, Pipeline Incidents (2016). <https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Portalpages>.

<sup>38</sup> National Transportation Safety Board Preliminary Report, February 6, 2019. <https://www.nts.gov/investigations/AccidentReports/Reports/PLD19MR001-Preliminary.pdf>

### **Mandates to Improve Safety Remain Unmet**

In response to other incidents, Congress previously has sought to improve pipeline safety by mandating that PHMSA promulgate new regulations designed to help prevent incidents before they occur. Years later, many of those mandates remain unmet.

For instance, in response to major pipeline incidents, including a massive Enbridge oil pipeline spill in Marshall, Michigan, and a fatal Pacific Gas & Electric natural gas explosion in San Bruno, California, in 2011 Congress enacted the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (P.L. 112-90), which mandated several safety improvements, including:

- *Valves (PSA11 Sec. 4)*. PHMSA must require pipeline operators to install automatic and remote-controlled shut-off valves, or equivalent technology, on hazardous liquid and natural gas transmission pipeline facilities constructed or entirely replaced after a Final Rule implementing this mandate is issued;
- *Integrity Management Plans (PSA11 Sec. 5(a)-(f))*. Requires pipeline operators to expand their integrity management program (pipeline inspection and repair program) beyond high-consequence areas (HCAs). HCAs include commercially navigable waterways, high population areas, other populated areas, and unusually sensitive areas;
- *Leak Detection (PSA11 Sec. 8(b))*. Requires pipeline operators to install leak detection systems, where practicable, and requires PHMSA to establish performance standards for the capability of such systems to detect leaks;<sup>39</sup>
- *Offshore Liquid Gathering Lines (PSA11 Sec. 21(c))*. Requires the Secretary to regulate offshore liquid gathering lines; and
- *Grandfathered Pipe (PSA11 Sec. 7(a)-(b))*. Requires pipeline owners and operators to verify maximum allowable operating pressure,<sup>40</sup> report exceedances of maximum allowable operating pressure, and requires PHMSA to issue regulations for conducting tests to confirm the material strength of previously untested natural gas transmission pipelines located in HCAs and operating at a pressure greater than 30 percent of specified minimum yield strength.

PHMSA has not implemented these mandates. According to PHMSA, the agency currently has three ongoing rulemakings that cover these outstanding mandates from the 2011 Act: “Safety of On-Shore Hazardous Liquid Pipelines,” “Safety of Gas Transmission Pipelines,” and “Amendments to Parts 192 and 195 to Require Valve Installation and Minimum Rupture Detection Standards.” PHMSA’s most recent schedule projects that it will issue Final Rules on June 18, 2019 and July 2, 2019, and a Notice of Proposed Rulemaking on August 7, 2019, respectively, for those proceedings—multiple years past the deadline that Congress mandated. Moreover, the latter two rulemakings have been under review by the Office the Secretary (OST) since October and August of 2018, respectively. After seven months of review at the OST, the “Safety of On-Shore Hazardous Liquid Pipelines” rule was sent to the Office of Management and Budget on March 19, 2019.

Then in 2016, Congress enacted the Protecting our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act of 2016, which required additional rulemakings and other safety mandates, including:

- *Natural Gas and Hazardous Liquid Integrity Management Reviews (PIPES Act Sec. 4 and 5)*. These sections require the GAO to report to Congress on how natural gas integrity management programs and the hazardous liquid pipeline facility integrity management programs have improved the safety of natural gas transmission and hazardous liquid pipeline facilities, respectively. GAO has not completed these two reports because PHMSA has not completed Final Rules required by the 2011 Act for the “Safety of Gas Transmission and Gathering Lines” or the “Safety of On-Shore Hazardous Liquid Pipelines.”
- *Technical Safety Standards Committees (PIPES Act Sec. 6(b))*. Requires the Secretary to fill all vacancies on the Technical Pipeline Safety Standards Committees within 90 days of the date of enactment, and within 60 days of any future vacancies. Currently, there are two government representative vacancies created on 12/2016 and 8/2018 on the Liquid Pipeline Advisory Committee, and

<sup>39</sup> Leak detection systems protect the public and environment from consequences of a pipeline failure by automatically alerting the operator when a leak occurs. Pipeline operators are then able to take appropriate action to minimize the spill. There are different types of systems; some measure the product volume at the start of a segment and compare it with the volume at the end, while others are more complex and monitor operating conditions. Additionally, the efficacy of systems relies on the sensitivity capabilities so that small leaks can be detected.

<sup>40</sup> Maximum Allowable Operating Pressure (MAOP) is a defined term, meaning the maximum pressure at which a pipeline or segment of a pipeline may be operated under the regulations. For maximum operating pressure of gas pipelines see 49 CFR 192.3 and for hazardous liquid pipelines, see 49 CFR 195.406.

one government representative vacancy created on 10/2018 on the Gas Pipeline Advisory Committee.

- *Underground Natural Gas Storage Facilities (PIPES Act Sec. 12(b)-(c))*. Requires the Secretary to issue minimum safety standards for underground natural gas storage facilities while allowing States to go beyond Federal regulations for regulating intrastate facilities. This section also imposes a fee on operators of underground natural gas storage facilities to support the Federal underground natural gas storage safety program. The agency issued an Interim Final Rule on minimum safety standards for underground natural gas storage facilities in December 2016 and reopened the comment period in October 2017. PHMSA has not published a Final Rule. The rule is scheduled to be published on July 2, 2019.
- *Safety Data Sheets (PIPES Act Sec. 14)*. Requires hazardous liquid pipeline operators to provide on-scene coordinators and state and local emergency responders with safety data sheets within six hours of a hazardous liquid spill, providing more accurate information for pipeline emergencies. Operators are required to comply with this self-executing provision, and PHMSA plans to incorporate the provision into the “Safety of On-Shore Hazardous Liquid Pipelines” rulemaking, which was sent to the OMB on March 19, 2019.
- *Emergency Order Authority (PIPES Act Sec. 16)*. Authorizes the Secretary to impose certain emergency restrictions and safety measures on pipeline operators to address an imminent hazard resulting from a pipeline incident or unsafe practice. PHMSA published an Interim Final Rule on emergency orders in October 2016 but has not issued a Final Rule. The rule is scheduled to be published on April 22, 2019.
- *Response Plans (PIPES Act Sec. 18)*. Requires oil spill response plans to consider the impact of a discharge into or on navigable waters and adjoining shorelines, including those covered by ice, and to include in those response plans procedures and resources for responding to such discharge. PHMSA held a workshop in April 2016 to develop a “Good Practices” guide on how to complete oil spill response plans, but the guide is still going through internal clearance and has not been published.
- *High Consequence Areas (PIPES Act Sec. 19)*. Designates the Great Lakes, coastal beaches, and marine coastal waters as HCAs for purposes of ensuring pipelines in these areas are inspected and repaired. A public meeting was held in November 2017, but no Final Rule has been issued. The agency has only begun drafting an Advanced Notice of Proposed Rulemaking, and no publication date has been identified.

Additionally, the PIPES Act of 2016 (Sec. 10) required the convening of a working group to consider the development of a voluntary information-sharing system to encourage collaborative efforts that improve inspection system feedback and information sharing. The purpose is to improve gas transmission and hazardous liquid pipeline facility integrity risk analysis. PHMSA’s Voluntary Information-Sharing System Working Group is preparing a report with recommendations.

PHMSA’s rulemaking program must comply with the Administrative Procedure Act and applicable Executive Orders; however, unlike other regulatory agencies, PHMSA has additional statutory processes it must fulfill before finalizing a pipeline safety regulation.<sup>41</sup> This process was put in place in 1996<sup>42</sup> and includes the requirement to perform a “risk assessment” of proposals under consideration, and to submit risk assessment information to the Technical Pipeline Safety Standards Committee and/or the Technical Hazardous Liquid Pipeline Safety Standards Committee.<sup>43</sup> The Committee(s) then must evaluate the data and provide any recommended options to PHMSA. PHMSA must review the report from the Committee(s), must provide written response, and may revise the risk assessment and proposed standard before promulgating a Final Rule. Moreover, PHMSA must propose or issue standards “only upon a reasoned determination that the benefits of the intended standard justify its costs,” except as otherwise required by statute.

To address the status of the statutorily-mandated PHMSA rulemakings, Congress required in the Sec. 3 of the PIPES Act of 2016 the Secretary to publish updates on the agency website every 90 days, which includes a work plan for each regulation, timeline, staff allocations, resource constraints, and any other constraints de-

<sup>41</sup> 49 U.S.C. § 60102(b).

<sup>42</sup> The Accountable Pipeline Safety and Partnership Act of 1996 (P.L. 104-304).

<sup>43</sup> PHMSA informally refers to the Technical Pipeline Safety Standards Committee as the Gas Pipeline Advisory Committee (GPAC), and the Technical Hazardous Liquid Pipeline Safety Standards Committee as the Liquid Pipeline Advisory Committee.

laying the rulemaking process. PHMSA has published its rulemakings chart online, and this information has aided Congress in monitoring PHMSA's progress.

WITNESS LIST

MEMBER PANEL

- The Honorable Lori Trahan, U.S. House of Representatives
- The Honorable Seth Moulton, U.S. House of Representatives

PANEL I

- The Honorable Howard "Skip" Elliott, Administrator, Pipeline and Hazardous Materials Safety Administration
- The Honorable Jennifer Homendy, Board Member, National Transportation Safety Board

PANEL II

- Mr. Carl Weimer, Executive Director, Pipeline Safety Trust
- Mr. Andrew Black, President and CEO, Association of Oil Pipe Lines
- Chief Dan Eggleston, EFO, CFO, CMO, President and Chairman of the Board, International Association of Fire Chiefs
- Mr. Richard Kuprewicz, President, Accufacts, Inc.
- Mr. Robin Rorick, Vice President of Midstream and Industry Operations, American Petroleum Institute
- Mr. Elgie Holstein, Senior Director for Strategic Planning, Environmental Defense Fund





## **PIPELINE SAFETY: REVIEWING THE STATUS OF MANDATES AND EXAMINING ADDI- TIONAL SAFETY NEEDS**

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**TUESDAY, APRIL 2, 2019**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON RAILROADS, PIPELINES, AND  
HAZARDOUS MATERIALS,  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,  
*Washington, DC.*

The subcommittee met, pursuant to call, at 10:01 a.m., in room HVC-210, Capitol Visitor Center, Hon. Daniel Lipinski (Chairman of the subcommittee) presiding.

Mr. LIPINSKI. The subcommittee will come to order.

First, I want to start by asking unanimous consent that Members not on the subcommittee be permitted to sit with the subcommittee at today's hearing and ask questions.

Without objection, so ordered.

I want to welcome everyone to the first hearing of the Railroads, Pipelines, and Hazardous Materials Subcommittee. It is an honor to be chairman of the subcommittee. It has been 8 years since I have held a gavel of a subcommittee. It is great to have this one.

I want to welcome Ranking Member Rick Crawford and all of the new members of the subcommittee here. I look forward to working with Ranking Member Crawford and Members on both sides of the aisle, as well as staff, on the many issues that we have before the subcommittee, including pipeline safety reauthorization. We have a long tradition of bipartisanship, and I look forward to continuing that tradition here.

This hearing is particularly important given the recent spate of pipeline incidents, both liquid and gas, that we have seen in recent years. Explosions and pipeline failures just in the past couple of years in Merrimack Valley, Dallas, Minneapolis, and locally here in Silver Spring have tragically killed many people and caused severe property damage.

I want to acknowledge Congresswoman Lori Trahan and Congressman Seth Moulton, who will speak today about the Merrimack Valley tragedy and the impacts it has had on their constituents.

From 1999 to 2018, the Pipeline and Hazardous Materials Safety Administration, PHMSA, reported 11,992 pipeline incidents which resulted in 317 deaths, 1,302 injuries, and more than \$8.1 billion in damages. Incidents increased nearly twofold from 1999 to 2018.

This shows that we still have much work to do to ensure the safety of our pipeline system, which must be our top priority.

First and foremost, on the safety front, is the expeditious completion of outstanding rulemakings from the 2011 and 2016 pipeline safety reauthorizations. I do want to note the progress that PHMSA Administrator Elliott has made since the subcommittee's June 2018 oversight hearing and the outstanding mandates from the 2011 and 2016 bills.

But it remains unacceptable that critical rules like the hazardous liquids rule, gas transmission line rule, and the valve and rupture detection rule have not been implemented. PHMSA's and USDOT's inaction continue to place lives at risk, and that is completely unacceptable. They must do a better job getting the regulations completed expeditiously.

Given the delay in completing these important rulemakings, we need to examine PHMSA's rulemaking process to determine if there are obstacles to more swift promulgations of regulations, including the unique benefit-cost analysis that PHMSA is required to undertake as part of any rulemaking.

I am pleased to welcome my good friend Jennifer Homendy here on behalf of the National Transportation Safety Board. NTSB recently came out with their 2019 to 2020 "most wanted list" of safety improvements. I look forward to hearing from NTSB about pipeline safety issues on this list and ways that Congress can address those issues.

Additionally, NTSB currently has 36 open pipeline safety recommendations. Twenty-four of those recommendations are to PHMSA. Three of the most-wanted recommendations to PHMSA are designated as "open—unacceptable response," including finding cracks, defects in pipes. It is important that we move quickly to address NTSB's recommendations, many of which have remained unaddressed for decades, and determine if there are any new safety regulations needed.

We also need to continue to assess the workforce capacity of PHMSA and ensure that PHMSA is properly staffed. This assessment should not only examine whether PHMSA adequately retains and has enough expertise and experience among pipeline inspector staff, but also whether PHMSA has enough technical and regulatory staff as well.

I look forward to hearing from the safety advocates on the second panel about the safety gaps they believe exist and need to be addressed. I also want to consider how industry can take proactive steps to work with communities and first responders to help prepare and train local emergency personnel in the case of emergencies.

It is important to ensure that robust emergency management and information-sharing plans and procedures are in place should something go wrong, like it did in my district in Romeoville, Illinois, when a pipeline spilled more than 6,427 barrels of oil in 2010.

Finally, I have heard concerns that some of PHMSA's regulations are woefully outdated and inhibit industry innovation in new areas. Therefore, it is important to listen to industry stakeholders on some of the challenges they face. I look forward to considering rea-

sonable requests about how we can modernize our regulations while holding bad actors accountable and not compromise safety.

I look forward to hearing from our witnesses. And now I recognize the ranking member, Mr. Crawford, for an opening statement. [Mr. Lipinski's prepared statement follows:]

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**Prepared Statement of Hon. Daniel Lipinski, a Representative in Congress from the State of Illinois, and Chair, Subcommittee on Railroads, Pipelines, and Hazardous Materials**

Good morning. I want to welcome everyone to the first hearing of the Railroads, Pipelines, and Hazardous Materials Subcommittee in the 116th Congress. This hearing is entitled: "Pipeline Safety: Reviewing the Status of Mandates and Examining Additional Safety Needs." I specifically want to give a warm welcome to our ranking member, Rick Crawford, and the new members of the subcommittee. I look forward to working with Ranking Member Crawford, members on both sides of the aisle, as well as staff on the many issues we have before this subcommittee, including pipeline safety reauthorization. We have a long tradition of bipartisanship and I look forward to continuing that tradition.

This hearing is particularly important given the recent spate of pipeline incidents, both liquid and gas, that we have seen in recent years. Explosions and pipeline failures just in the past couple of years in Merrimack Valley, Dallas, Minneapolis, and Silver Spring have tragically killed many people and caused severe property damage.

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First and foremost on the safety front is the expeditious completion of outstanding rulemakings from the 2011 and 2016 pipeline safety reauthorizations. I do want to note the progress that PHMSA and Administrator Elliott have made since this subcommittee's June 2018 oversight hearing on the outstanding mandates from the 2011 and 2016 bills. But it remains unacceptable that critical rules like the hazardous liquids rule, gas transmission line rule, and the valve and rupture detection rule, have not been implemented. PHMSA's and USDOT's inaction continue to place lives at risk and that is simply unacceptable. They must do a better job getting the regulations completed expeditiously.

Given the delay in completing these important rulemakings, we need to examine PHMSA's rulemaking process to determine if there are obstacles to more swift promulgations of regulations, including the unique benefit-cost analysis that PHMSA is required to undertake as part of any rulemaking.

I am pleased to welcome my good friend Jennifer Homendy here on behalf of the National Transportation Safety Board (NTSB). NTSB recently came out with their 2019–2020 Most Wanted list of safety improvements. I look forward to hearing from NTSB about pipeline safety issues on this list and ways Congress can address those issues.

Additionally, NTSB currently has 36 open pipeline safety recommendations. Twenty-four of those open recommendations are to PHMSA. Three of the Most Wanted recommendations to PHMSA are designated as "Open—Unacceptable Response," including finding crack defects in pipes. It's important that we move quickly to address NTSB's recommendations, many of which have remained unaddressed for decades, and determine if there are any new safety regulations needed.

We also need to continue to assess the workforce capacity of PHMSA and ensure that PHMSA is properly staffed. This assessment should not only examine whether PHMSA adequately retains and has enough expertise and experience among pipeline inspector staff, but also whether PHMSA has enough technical and regulatory staff as well.

I look forward to hearing from the safety advocates on the second panel about the safety gaps they believe exist and need to be addressed. I also want to consider how industry can take proactive steps to work with communities and first responders to help prepare and train local emergency personnel in the case of emergencies. It is

important to ensure that robust emergency management and information sharing plans and procedures are in place should something go wrong like it did in my district in Romeoville, Illinois, when a pipeline spilled more than 6,427 barrels of oil in 2010.

Finally, I have heard concerns that some of PHMSA's regulations are woefully outdated and inhibit industry innovation in new areas. Therefore, it is important to listen to industry stakeholders on some of the challenges they face and I look forward to considering reasonable requests about how we can modernize our regulations, while holding bad actors accountable and not compromise safety.

I look forward to hearing from our witnesses. I now recognize the ranking member, Mr. Crawford, for an opening statement.

Mr. CRAWFORD. Thank you, Chairman Lipinski. As we begin our work to reauthorize the 2016 PIPES Act, I look forward to working with you and the members of this subcommittee to improve pipeline safety through a balanced regulatory approach.

The United States has the largest network of energy pipelines in the world and supplies 65 percent of the energy we use every day. The oil and natural gas industry supports over 10.3 million jobs and 8 percent of the total U.S. economy. Continued industry investments will provide more high-paying jobs for a diversifying workforce.

As the world's leading energy exporter, the United States can continue to bolster our economy and our allies' energy security by exporting our oil and natural gas. Just last week, I was proud to join 390 of my colleagues in passing H.R. 1616, the European Energy Security and Diversification Act, to facilitate the export of U.S. energy resources to Central and Eastern European countries.

Every year, more than 2.6 million miles of pipelines safely deliver large volumes of natural gas and liquid petroleum products across the United States. A safe pipeline system is essential to relieve the burdens on other modes of our transportation network.

Pipelines remain one of the safest and most cost-effective means to transport large quantities of our Nation's energy products. And oversight of the Pipeline and Hazardous Materials Safety Administration, or PHMSA, safety programs is a top priority for this subcommittee in achieving our goal of zero pipeline incidents.

The 2016 PIPES Act was bipartisan and made progress towards ensuring the safety of pipelines in the communities around them. The 2016 PIPES Act provided regulatory certainty for our citizens, the safety community, and the industry stakeholders. Today, we will hear from PHMSA about the progress to date as well as pending actions on the mandates from both the 2011 and 2016 legislation.

While I appreciate the progress that has been made, there is still work to be done. The 2011 law included 42 congressional mandates, of which 34 are complete. The 2016 PIPES Act contained 19 mandates, 16 of which are complete. I especially look forward to hearing from the industry about its safety initiatives to ensure best practices for inspections, detecting leaks, and other important safety initiatives.

In closing, let me thank our witnesses for coming today to discuss the issues concerning pipeline safety and how we can continue to improve pipeline safety.

And, Mr. Chairman, I yield back. Look forward to working with you.

[Mr. Crawford's prepared statement follows:]

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**Prepared Statement of Hon. Eric A. "Rick" Crawford, a Representative in Congress from the State of Arkansas, and Ranking Member, Subcommittee on Railroads, Pipelines, and Hazardous Materials**

Thank you, Chairman Lipinski. As we begin our work to reauthorize the 2016 PIPES Act, I look forward to working with you and this subcommittee to improve pipeline safety through a balanced regulatory approach.

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The United States is leading the world in production and refinement of oil and natural gas, and in the reduction of carbon dioxide emissions. These emission reductions are due in large part to the increasing use of natural gas. Increased use of natural gas in the power generation sector has helped to reduce total CO2 emissions, and cleaner, more efficient fuels lead to reduced carbon emissions. Oil and natural gas are also essential to the production of solar panels, wind turbines, batteries, and electric vehicles. The industry and its stakeholder partners, including university researchers and environmental groups, continue to help develop and deploy state-of-the-art technologies and practices to further reduce emissions.

Pipelines remain one of the safest and most cost-effective means to transport large quantities of our Nation's energy products, and oversight of the Pipeline and Hazardous Materials Safety Administration (PHMSA) safety programs is a top priority for this subcommittee in achieving our goal of zero pipeline incidents.

Pipeline safety is a collaborative effort between industry, PHMSA, and State governments. We must continue to promote cooperation between regulators and stakeholders. We also must ensure that our balanced approach to safety regulations fosters innovation in technology and best practices to improve safety.

The 2016 PIPES Act was bipartisan and made progress towards ensuring the safety of pipelines and the communities around them. The 2016 PIPES Act provided regulatory certainty for our citizens, the safety community, and industry stakeholders.

Today we will hear from PHMSA about the progress to-date as well as pending actions on the mandates from both the 2011 and 2016 legislation. While I appreciate the progress that has been made, there is still work to be done. The 2011 law included 42 congressional mandates, of which 34 are complete. The 2016 PIPES Act contained 19 mandates, 15 of which are complete.

I especially look forward to hearing from the industry about its safety initiatives to ensure best practices for inspections, detecting leaks, and other important safety initiatives. In closing, I thank our witnesses for coming today to discuss the issues concerning pipeline safety and how we can continue to improve pipeline safety.

Mr. LIPINSKI. Thank you, Mr. Crawford.

I now call on the chair of the full committee, Mr. DeFazio, for an opening statement.

Mr. DEFazio. Mr. Chairman, a small token to celebrate your—

Mr. LIPINSKI. Thank you. Can I open it now?

Mr. DEFazio. Yes. You can even use it. It is functional. It is smaller than that one.

Mr. LIPINSKI. So you are telling me—you gave away what is in here.

Mr. DEFAZIO. Well, I think you have been at some of the other hearings when I gave them to—

Mr. LIPINSKI. Thank you.

Mr. DEFAZIO. Not a big surprise.

Brief remarks. I would echo concerns raised by both the chair and the ranking member.

Last year, 8 people were killed, and 92 people were injured in 633 pipeline incidents. We are going to hear from the Representative of the worst incident of the last year, the most serious one, in Merrimack Valley, where somehow high-pressure gas got into the low-pressure system, and that damaged 131 structures, destroyed 5 homes, injured 21 people, and killed an 18-year-old. These things just shouldn't happen.

There are other ongoing investigations with the NTSB, and we always look forward to their advice in these matters.

The Administrator is also here. I met with the Administrator recently to discuss progress on the rulemakings. It is simply unacceptable to have safety critical rules that were passed by Congress 8 years ago lingering somewhere. Apparently, five have moved out of the agency, and they are somewhere in—I don't know. OMB? The Secretary's office? There are rumors that there is some sort of a ledger and the cost of regulations can't exceed a certain amount.

I am not sure what is holding them up. I don't know what value the Secretary puts on their life, but when you lose that many people in a year, and we have safety critical rules, particularly leak detection and other things that are not yet accomplished, not yet promulgated, you have to question what is going on. We are not going to rest easy until we get this all done and we make the system safer across the country and prevent these sorts of incidents.

We will be looking for ideas on additional, if necessary, rulemakings. We certainly want to look at ways that we can work with the industry in doing rulemaking. But it is ultimately a regulated industry, and the regulators must protect the public. I do not believe in self-regulation even with best practices.

With that, Mr. Chairman, I will yield back the balance of my time.

[Mr. DeFazio's prepared statement follows:]

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**Prepared Statement of Hon. Peter A. DeFazio, a Representative in Congress from the State of Oregon, and Chair, Committee on Transportation and Infrastructure**

Thank you, Chairman Lipinski and Ranking Member Crawford, for calling today's hearing to consider the state of pipeline safety in the United States.

Across the country, 2.7 million miles of pipelines transport hazardous liquid and natural gas from production and origin sites to refineries and chemical plants, storage facilities, and homes and businesses. These pipelines reach the furthest stretches of the country, making the integrity of the pipelines important to rural communities and dense cities alike.

The Pipeline and Hazardous Materials Safety Administration—the Federal agency charged with ensuring the safe, reliable, and environmentally sound operation of these pipeline systems—reported 633 pipeline incidents in 2018. Eight people were killed and 92 others were injured in last year's incidents. One of the worst incidents in recent memory occurred in September in Merrimack Valley, Massachusetts. When oversights led to highly pressurized gas entering the low-pressure gas distribution system servicing homes and businesses, multiple fires and explosions dam-

aged 131 structures, destroyed 5 homes, injured 21 people, and killed an 18-year-old.

The National Transportation Safety Board is investigating that incident along with seven others, such as the February 2019 incident in San Francisco where a third-party contractor struck a Pacific Gas & Electric Corporation natural gas main line, igniting a fire that burned for more than 2 hours until the operator could isolate and shut down the flow of gas.

Surely, there is more that we can do to improve safety. Today's hearing provides an opportunity to hear from a wide range of pipeline stakeholders about the safety risks that continue to elude us.

There is one thing we don't need any expert to tell us: safety mandates from the 2011 and 2016 reauthorization bills still aren't completed.

In 2011, after devastating accidents in San Bruno, California, and Marshall, Michigan, Congress required PHMSA to improve the safety of hazardous liquid pipelines, to eliminate safety gaps in gas transmission pipelines, and to examine requirements to better detect leaks and shut off pipelines during disasters. These rules haven't been finalized, 8 years later. Part of that is due to agency failures, and part of that may be due to burdensome statutory requirements that require PHMSA to prove, in every safety rule, that the benefits outweigh the costs.

Additional mandates from the 2016 reauthorization bill, including regulations intended to prevent underground natural gas storage leaks like what happened in Aliso Canyon, remain unaccomplished.

The Administrator is here today to tell us where these mandates stand. To his credit, and after much lambasting that occurred at our last oversight hearing, the Administrator will be able to talk about some progress on some of these mandated rulemakings. Yet, the rules are still not done.

So, where are the safety rules? Some are sitting on the Secretary's desk or are over at OMB. In the few months since this subcommittee's last pipeline oversight hearing, PHMSA has moved five rulemakings out of the agency and to the Secretary's Office or to OMB. I'm not sure what is taking so long to review a rule that PHMSA has completed—is it the President's Executive orders on regulatory reform, or an arbitrary and nonsensical cap on the cost to industry of regulations imposed by the Secretary and OMB.

I expect the Administrator to tell us his agency's plans to finish these long-overdue mandates. Specifically, I want to know when they will finally be completed. I also expect to hear what tools or resources Congress can provide PHMSA or other hurdles we can tear down to ensure that future mandates don't take 8 years to complete.

Let me be clear: a near-decade of delay will not happen again. We will not sit here in 2027 asking when the mandates from 2019 will be finished. The public deserves better, and Congress demands better.

So, I hope today's hearing will be informative. I look forward to hearing from the NTSB, who will have plenty to share on the importance of the past mandates and ways to improve safety overall. And we have a range of safety experts, first responders, and industry on the second panel to help us identify how to keep our pipeline systems safe. If there are things we can fix, we're going to fix them.

Thank you, and I look forward to hearing the witnesses' testimony.

Mr. LIPINSKI. Thank you, Mr. DeFazio. Thank you for the gavel.

Mr. DEFAZIO. Yes.

Mr. LIPINSKI. I will proudly display that in my office.

Mr. DEFAZIO. I ordered them online. They looked a little bigger than that.

Mr. LIPINSKI. Yeah, it is a little smaller than—

Mr. DEFAZIO. You might use that one. Just put that one in your office somewhere.

Mr. LIPINSKI. Yeah, I will. Thank you.

Before proceeding to our two witness panels, I would like to—let's see, we have Congresswoman Lori Trahan. Congressman Seth Moulton may be here. But both of them are going to speak about the Merrimack Valley tragedy and its impact on their districts and constituents.

I want to ask unanimous consent that our colleagues' full statements be included in the record.

And, without objection, so ordered.  
 And we will proceed with Representative Trahan.  
 So welcome.

**TESTIMONY OF HON. LORI TRAHAN, A REPRESENTATIVE IN  
 CONGRESS FROM THE STATE OF MASSACHUSETTS; AND  
 HON. SETH MOULTON, A REPRESENTATIVE IN CONGRESS  
 FROM THE STATE OF MASSACHUSETTS**

Mrs. TRAHAN. Chairman Lipinski, Ranking Member Crawford, members of the subcommittee, thank you for allowing me to testify today on an issue that has been weighing on so many hearts and minds in my district for the past 28 weeks, ever since a series of preventable errors triggered gas-fueled explosions across Lawrence, Andover, and North Andover, Massachusetts. The explosions destroyed homes and damaged businesses, caused multiple injuries, and took a young life.

To briefly recap events, at 4 o'clock in the afternoon on Thursday, September 13, a cascade of explosions rocked over 130 homes and businesses, burning several to the ground. Terrified residents had no idea what was happening or why or when it would stop.

While the National Transportation Safety Board won't issue its final report and recommendations for several months, its interim report revealed shocking details that demand action.

Columbia Gas of Massachusetts, a subsidiary of NiSource, was replacing gas pipelines in the area, and major errors were made throughout the process.

One of the biggest was the mishandling of a gas pressure sensor line. This sensor signals to an automated system whether to adjust gas flow. However, when the new pipeline was installed, the sensor line remained in the old, abandoned pipeline. The lack of flow in the old line led the sensor to call for more and more gas in the new line. Across the country, people saw the consequence on the evening news. This should have never happened.

In November, the Board recommended that Columbia Gas revamp its engineering review process to more securely plan for whatever public safety may be at risk. It recommended that company records be updated with critical details such as location of sensor lines, as industry standard practice calls for.

The Board also recommended that the company implement a management-of-change process to identify and mitigate potential risks ahead of project work.

Finally, the Board urged Massachusetts to repeal a law that exempted gas companies from securing the seal of a professionally licensed engineer on these projects. Indeed, it is my understanding that more than a dozen States have such exemptions in place today. To their credit, the Commonwealth's Governor and legislature quickly acted to repeal this exemption.

Furthermore, I am told that Columbia Gas is in contact with the Board to implement the industry recommendations. Nevertheless, I urge the committee to be bold by strengthening safety standards and mandating professional engineer reviews.

Over the past 7 months, I have met with many victims of the Merrimack Valley gas explosions. I heard stories of courage and



commitment, nowhere more so than in Lawrence, a community known as the “City of Immigrants.”

One local hero, Police Officer Ivan Soto, learned that his home was one of those on fire. But like so many first responders, once he knew his family was safe, Officer Soto returned to duty to help as many people as he could.

Drs. Yeri Park and Chelsea Harris were graduate medical residents at Greater Lawrence Family Health Center. Neither is from Lawrence—Dr. Park is from Los Angeles, in fact—but they and their colleagues sprang into action to help victims and offer surge support, as the local hospital already had its hands full.

But despite their heroic efforts, there is no replacing some of what was lost. Luis Suazo owns a bodega. He is one of many first-generation immigrants who started his own successful business in Lawrence. But he could lose it all. His regular customers are still financially strapped from the disaster. That is a feeling he is intimately familiar with himself. He is currently navigating an extended damage claims review process. Plus, quite frankly, many residents are just fearful that there may be more explosions, and so they stay indoors. That means less foot traffic and fewer customers in the Suazo market.

Finally, Leonel Rondon. Leonel was a student celebrating his new driver’s license that day. Then, a home exploded, and debris from a chimney collapsed onto the car he was in, killing him. He was 18. His sister, Lucianny, testified at a Senate field hearing in Lawrence last November. She said, “We hope there will be justice for Leonel and for the community. Nobody should ever have to go through what my family has gone through ever again.”

I invite any of the members of the committee to come to the Merrimack Valley and see the damage for yourself and also meet those who suffered losses as well as those who came to the rescue.

Finally, I implore this committee to approve a strong reauthorization of the Pipeline Safety Act this year. I stand ready to work with you on legislation to prevent such a disaster from happening again.

Thank you. Thank you for your time.

[Mrs. Trahan’s prepared statement follows:]

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**Prepared Statement of Hon. Lori Trahan, a Representative in Congress  
from the State of Massachusetts**

Chairman Lipinski and Ranking Member Crawford, thank you for allowing me to testify today on an issue that has been weighing on so many hearts and minds in my district for the past 28 weeks . . .

. . . Ever since a series of *preventable* errors triggered gas-fueled explosions across Lawrence, Andover, and North Andover, Massachusetts.

The explosions destroyed homes and damaged businesses, caused multiple injuries and took a young life.

To briefly recap events: At four in the afternoon on Thursday, September 13th, a cascade of explosions rocked over 130 homes and businesses, burning several to the ground.

Terrified residents had no idea what was happening or why or when it would stop. While the National Transportation Safety Board likely won’t issue its final report and recommendations for several more months, its interim report revealed shocking details that demand action.

Columbia Gas of Massachusetts was replacing gas pipelines in the area; and major errors were made throughout the process.

One of the biggest was the mishandling of a gas pressure sensor line. This sensor signals to an automated system whether to adjust gas flow.

However, when the new pipeline was installed, the sensor line remained in the old, *abandoned* pipeline.

The lack of flow in the old line led the sensor to call for more and more gas in the new line.

Across the country, people saw the consequences on the evening news. This should never have happened.

In November, the Board recommended that Columbia Gas revamp its engineering review process to more securely plan for whenever public safety may be at risk.

It recommended that company records be updated with critical details, such as the location of sensor lines—as industry standard practice calls for.

The Board also recommended that the company implement a “management of change” process to identify and mitigate potential risks ahead of project-work.

Finally, the Board urged Massachusetts to repeal a law that exempted gas companies from securing the seal of a professionally licensed engineer on these projects.

Indeed, it is my understanding that more than a dozen States have such exemptions in place.

To their credit, the Commonwealth’s Governor and legislature *quickly* acted to repeal the exemption.

Furthermore, I’m told that Columbia Gas is in contact with the Board to implement the industry recommendations.

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I heard stories of courage and commitment—nowhere more so than in Lawrence, a community known as the “City of Immigrants.”

One local hero, Police Officer Ivan Soto, learned that his home was one of those on fire. Nevertheless, once he knew his family was safe, Officer Soto returned to duty to help as many people as he could.

Doctors Yeri Park and Chelsea Harris were graduate medical residents at Greater Lawrence Family Health Center.

Neither is from Lawrence. Dr. Park is from Los Angeles, in fact.

But they and their colleagues sprang into action to help victims and offer surge support as the local hospital already had its hands full.

But despite their heroics, there is no replacing some of what was lost.

Luis Suazo owns a bodega.

He is one of many first-generation immigrants who started his own successful business in Lawrence.

But he could lose it all.

His regular customers are still financially strapped from the disaster.

That’s a feeling he is intimately familiar with himself; he’s currently navigating an extended damage claims review process.

Plus, quite frankly, many residents are fearful that there may be more explosions, so they stay indoors.

That means less foot traffic and fewer customers in the Suazo Market.

Finally, Leonel Rondon. Leonel was a student celebrating his new driver’s license that day.

Then, a house exploded, and a piece of chimney collapsed onto the car he was in, killing him.

His sister, Lucianny, testified at a Senate field hearing in Lawrence last November. She said “we hope there will be justice for [Leonel] and the community. Nobody should ever have to go through what my family has gone through ever again.”

I invite you to come to the Merrimack Valley: See the damage for yourself; meet those who suffered losses as well as those who came to the rescue.

Finally, I implore this committee to approve a strong reauthorization of the Pipeline Safety Act this year.

I stand ready to work with you on legislation to prevent such a disaster from happening again.

Thank you.

Mr. LIPINSKI. I thank you, Mrs. Trahan.

And we now have, right in the nick of time, Mr. Moulton. So we will give you a couple seconds there to—

Mr. MOULTON. Oh, no, no. We are ready to go.

Mr. LIPINSKI. We will recognize you.

Mr. MOULTON. Thank you, Mr. Chairman.

Chairman DeFazio, Chairman Lipinski, Ranking Member Graves, Ranking Member Crawford, thank you all for inviting me here today.

On the 13th of last September, workers for Columbia Gas replacing a system of 100-year-old cast-iron pipes failed to account for a pressure sensor. The lines were overpressurized and set off a series of disasters that brought carnage I thought I had left behind in Iraq to the Merrimack Valley.

Witnesses described houses exploding. Just repeat that phrase: houses exploding. At one exploding house, a chimney landed on a car and crushed a young man inside it to death. The explosions and the fires that happened in the aftermath injured 23 people and in a second turned 30,000 folks in Merrimack Valley into temporary refugees. All told, 7,700 people couldn't return to their homes, including 2,683 children, many for months.

The story that day was one of devastation. It didn't take long, however, to turn into a story of inspiration. Strangers took in neighbors. Red Cross workers, local leaders, and first responders banded together to help out. By the end of the first night, it seemed like everyone in the Merrimack Valley was pitching in to help us recover—everyone except the company that caused the explosion.

Columbia Gas dawdled in the moments and days immediately after this tragedy. And when I asked their president why, during a Senate Commerce Committee field hearing, he assured me that public safety was one of the company's core values. But shortly thereafter, we learned the truth from a courageous whistleblower who retired 3 months prior.

Before the explosions, that employee, Mr. Bart Maderios, warned the general manager and another senior employee that staffing and oversight decisions made by Columbia Gas would create a situation in which they, and I quote, "didn't have enough people to respond and provide safe, reliable natural gas."

But that wasn't all. Columbia Gas had also reduced the number of staff monitoring gas pressure in the Merrimack Valley. The company stopped requiring technicians on site at construction projects to monitor gas distribution lines. And the National Transportation Safety Board found that the company used a field engineer who had, and I quote, "limited knowledge about the importance of regulator-sensing lines" to supervise the project. This oversight, or lack of oversight, caused workers to improperly bypass critical pipeline pressure-sensing lines, which led directly to the explosion.

Last month, 10 families were still in temporary housing; small businesses faced the prospect of closing their doors because of the rate at which Columbia Gas paid their claims; and Columbia Gas has still not replaced appliances beyond merely patching them up as winter approached.

In the 6 months since, Columbia Gas has put together a long-term recovery plan that focuses on bettering its emergency response and pipeline safety initiatives, but the damage wasn't just to people and to homes. Peace of mind exploded that day as well. Now, parents have cause to think twice when they hear the click of a stovetop or the rumble of a hot water heater. They wonder if their house might blow up.

It is up to Congress to rebuild that peace of mind. As this committee considers the reauthorization of the Natural Gas Pipeline Safety Act, we must improve safety protocols and oversight of operators like Columbia Gas.

And the President needs to step up and work with Congress too. Let's all work together to rebuild America's aging infrastructure, like the century-old pipes running through the Merrimack Valley.

Let's eliminate professional engineer license exemptions for public utility work. Let's make sure a professional engineer approves all public utility engineering drawings.

Let's hold State and Federal pipeline safety regulators accountable for sufficient staffing. Let's explore the lack of oversight by the Pipeline and Hazardous Materials Safety Administration, which gave the Massachusetts system a rating of 97.4 out of 100 just 1 month before the explosions.

Let's make the regulation of pipe replacement mandatory and rethink how the administration could be more efficient as it weighs costs and benefits for new regulations. Because no cost is greater than that of young men, of young Americans, like the young man who was killed, 18-year-old Leonel Rondon.

Let's do it for Merrimack. Let's do it together. And let's do it now.

Thank you. I yield back.

[Mr. Moulton's prepared statement follows:]

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**Prepared Statement of Hon. Seth Moulton, a Representative in Congress  
from the State of Massachusetts**

Thank you to Chairman DeFazio, Chairman Lipinski, Ranking Member Graves, and Ranking Member Crawford for inviting me to be here today.

On the 13th of last September, workers for Columbia Gas replacing a system of 100-year-old cast-iron pipes failed to account for a pressure sensor. The lines overpressurized, and set off a series of disasters that brought carnage I thought I left behind in Iraq to the Merrimack Valley.

Witnesses described houses exploding in a deafening blink. At one exploding house, a chimney landed on a car and crushed a young man inside it to death. The explosion and the fires that happened in the aftermath injured 23 other people and in a second turned 30,000 people in the Merrimack Valley into temporary refugees.

All told, 7,700 people couldn't return to their homes—including 2,683 children—many for months.

The story that day was one of devastation.

It didn't take long to turn to one of inspiration.

Strangers took in neighbors. Red Cross workers, local leaders, and first responders banded together to help out.

By the end of the first night, it seemed like everyone in Merrimack Valley was pitching in to help us recover.

Everyone except the company that caused the explosion.

Columbia Gas dawdled in the moments and days immediately after this tragedy. And when I asked their president why during a Senate Commerce Committee field hearing, he assured me that public safety was one of the company's core values.

Shortly thereafter, we learned the truth from a courageous whistleblower who retired 3 months prior.

Before the explosions, that employee—Mr. Bart Maderios—warned the general manager and another senior employee that staffing and oversight decisions made by Columbia Gas would create a situation in which they, and I quote, "didn't have enough people to respond and to provide a safe, reliable natural gas."

But that wasn't all.

Columbia Gas had also reduced the number of staff monitoring gas pressure in Merrimack Valley.

The company had stopped requiring technicians on-site at construction projects to monitor gas distribution lines.

And the National Transportation Safety Board found that the company used a field engineer, who had, and I quote, "limited knowledge about the importance of regulator-sensing lines."

This oversight caused workers to improperly bypass critical pipeline pressure-sensing lines which led to the explosion.

Last month, 10 families were still in temporary housing, small businesses faced the prospect of closing their doors because of the rate at which Columbia Gas paid their claims, and Columbia Gas has still not replaced appliances beyond merely patching them up as winter approached.

In the 6 months since, Columbia Gas has put together a long-term recovery plan that focuses on bettering its emergency response and pipeline safety initiatives.

But the damage wasn't just to people and homes.

Peace of mind exploded that day too.

Now parents have cause to think twice when they hear the click of the stove top or the rumble of a hot water heater—they wonder if their house might blow up.

It's up to Congress to rebuild that peace of mind.

As this committee considers the reauthorization of the Natural Gas Pipeline Safety Act, we must improve safety protocols and oversight of operators like Columbia Gas.

And the President needs to step up and work with Congress too. Let's all work together and rebuild America's aging infrastructure like the century-old pipes running through the Merrimack Valley.

Let's eliminate professional engineer license exemptions for public utility work.

And let's make sure a professional engineer approves all public utility engineering drawings.

Let's hold State pipeline safety regulators accountable for sufficient staffing.

And let's explore the lack of oversight by the Pipeline and Hazardous Materials Safety Administration, which gave the Massachusetts system a rating of 97.4 out of 100 just 1 month before the explosions.

Let's make the regulation of pipe replacement mandatory.

And rethink how the Administration could be more efficient as it weighs costs and benefits for new regulations, because no cost is greater than the worth of the life of Americans—young men like 18-year-old Leonel Rondon, the young man who the chimney killed.

Let's do it for Merrimack. Let's do it together.

And let's do it right now.

Mr. LIPINSKI. I thank you, Mr. Moulton.

And thank both of you for shining a bright light on what we need to keep in mind as we are working on reauthorizing the pipeline safety bill. Thank you both very much for your testimony.

Mrs. TRAHAN. Thank you.

Mr. LIPINSKI. We will now welcome our first panel of witnesses. As you get ready to come up here, the Honorable Howard "Skip" Elliott, the Administrator of the Pipeline and Hazardous Materials Safety Administration, and the Honorable Jennifer Homendy, Board Member of the National Transportation Safety Board.

I want to ask unanimous consent that our witnesses' full statements be included in the record.

And, without objection, so ordered.

I thank our witnesses for being here today for this first panel. Since your written testimony has been made part of the record, the subcommittee requests that you limit your oral testimony to 5 minutes.

And we will start with Mr. Elliott, and you are recognized for 5 minutes.

**TESTIMONY OF HON. HOWARD “SKIP” ELLIOTT, ADMINISTRATOR, PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION; AND HON. JENNIFER HOMENDY, MEMBER, NATIONAL TRANSPORTATION SAFETY BOARD**

Mr. ELLIOTT. Chairman DeFazio, Ranking Member Graves, Chairman Lipinski, and Ranking Member Crawford, and esteemed members of this subcommittee, thank you for the opportunity to testify here today. I look forward to updating the subcommittee on the Pipeline and Hazardous Materials Safety Administration’s progress in closing open congressional mandates and executing our broader safety mission.

Last summer, this subcommittee expressed its frustration loud and clear regarding the outstanding congressional mandates on pipeline and hazardous materials safety. We heard you, and we are working hard to ensure our Nation’s pipeline system remains safe while addressing the critical safety mandates received from Congress.

Of the 12 remaining mandates from the 2011 and 2016 Pipeline Safety Acts—there were 61 in total—4 were tied to reports and other actions, and the remaining 8 are tied to in-progress rule-making efforts.

Those mandates from the 2011 act, those that have been opened the longest, are being addressed by three of PHMSA’s upcoming rulemakings for gas transmission pipelines, hazardous liquid pipelines, and rupture detection and valves.

PHMSA continues to make progress on these rules, with the liquid pipeline safety rule having moved out of DOT for final review last month. PHMSA has also completed its work on the gas transmission pipeline final rule, and it is now undergoing internal administrative review.

I understand that many of you and many of our stakeholders may feel like we are not moving fast enough on rulemakings. As a safety practitioner, I appreciate and I share those concerns. As PHMSA Administrator, it is my responsibility to prioritize and pursue those rulemakings that will provide the greatest safety impact and have the highest likelihood of preventing events that could negatively impact people and the environment.

To that end, I refer the members of this subcommittee to my written testimony regarding the details of two important safety mandates, closed since we last convened, dealing with comprehensive oil spill response plans for railroads and the transport of lithium ion batteries by air. In addition, we issued a final rule to modernize technologies for plastic pipelines that we hope will further accelerate aging distribution gas line replacement.

In addition to congressional mandates, many of PHMSA’s rules must also address recommendations from the National Transportation Safety Board that relate to complex safety matters. Our rules also address recommendations from the U.S. Government Accountability Office and our own safety findings. Furthermore, we must make sure our regulations account for known safety issues, technological feasibility, and cost-effectiveness.

PHMSA holds public meetings and workshops prior to rulemakings, using the information gathered to craft the most effective rules possible. Such collaboration well in advance of the

rulemaking process allows us to identify concerns and potential solutions to allocate our limited resources where they are needed the most. A lot of work goes on behind the scenes to get a rule ready for publication, and we are making positive movements towards completing our mandates.

Safety is the highest priority for the U.S. Department of Transportation and for PHMSA, and we are continuing to work hard to publish the rules and reports that will complete our mandates. We are also committed to addressing safety issues on all fronts.

I am pleased to say that, while making progress on mandates, PHMSA's oversight role is continuing to have a positive impact on safety. Thanks to our integrity management requirements, pipeline operators have conducted over 90,000 repairs in high-consequence areas.

Our field efforts are working too. Last year, PHMSA conducted over 12,000 days of inspections and investigations of pipeline systems. These field activities are helping to improve the safety, as evidenced in the number of reported pipeline incidents, which for 2018 was below the 5-year average, even with PHMSA's expanded regulatory oversight of underground natural gas storage facilities.

Additionally, the same data shows that both pipeline-related fatalities and the net volume spilled from hazardous liquid pipelines was also below the 5-year average, down 33 percent and 21 percent respectively, although we know that even one pipeline-related casualty is one too many.

These facts, while notable, do not give me reason to pause during our ongoing safety mission at PHMSA. And even though we use statistics to help us measure improvements in safety, it is the vivid reminder of incidents in places like Bellingham, Marshall, San Bruno, Aliso Canyon, and Merrimack Valley that serve as our motivation and commitment for working even harder to improve pipeline safety.

Thank you again for inviting me to today's hearing, and I look forward to your questions.

[Mr. Elliott's prepared statement follows:]

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**Prepared Statement of Hon. Howard "Skip" Elliott, Administrator, Pipeline and Hazardous Materials Safety Administration**

**I. INTRODUCTION**

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

Our nation's infrastructure keeps this great nation moving and helps to raise the standard of living for all Americans. The natural gas and hazardous liquid pipelines PHMSA regulates are an essential component of our national infrastructure, safely transporting the energy products that are essential to our daily lives. Like all DOT modes, PHMSA is guided by Secretary Chao's four strategic goals of safety, infrastructure enhancements, innovation, and accountability.

**A. PHMSA's Mission**

The mission of PHMSA is to protect people and the environment by advancing the safe transportation of energy products and other hazardous materials that are essential to our daily lives. The need for safe and reliable energy infrastructure is

growing. Our nation is experiencing an energy renaissance, propelled largely by innovative production technologies and global demand for U.S. energy.

PHMSA's pipeline safety program is responsible for the regulation and oversight of over 2.7 million miles of energy pipeline systems. The vision of the pipeline safety program is straightforward: update or develop new regulations, policies, and guidance; improve our oversight to hold pipeline operators accountable; find innovative solutions to promote safety; and accommodate and encourage research into new and promising technologies. Each of these goals ensure that pipeline infrastructure can continue to provide safe and reliable energy to our communities, homes, and businesses.

After working for decades in the freight rail industry, a great deal of it leading efforts to improve public safety and incident response, I have learned that safety is the result of effective, smart regulations that hold industry accountable, and reduce costs, when possible.

PHMSA's safety goal is zero pipeline accidents and its oversight philosophy is based on three fundamental tenets:

1. Establish minimum safety standards and take enforcement actions against operators not in compliance with these standards.
2. Ensure operators understand and manage the risks associated with their pipelines, including taking actions to prevent pipeline accidents and minimizing the impact of any accidents that occur.
3. Continually encourage and expect pipeline operators to improve their performance beyond minimum compliance with the regulations and continuously build a strong safety culture.

## II. PROGRESS ON MANDATES

When I spoke to this Subcommittee last year, I heard clearly from its members that finalizing outstanding Congressional mandates must be a top priority. PHMSA recognizes the concerns of this Subcommittee and is continuing to make progress on critical safety mandates. Since June 2018, PHMSA completed and submitted reports to Congress on the Nationwide Integrated Pipeline Safety Regulatory Database, as well as a report on the Study on Propane Gas Pipeline Facilities. Both reports were mandated in the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011.

Over the past year, PHMSA prioritized the rules it thought it could move quickly such as those for lithium batteries, plastic pipelines, and oil spill response plans for trains carrying crude oil. These regulations are intended to advance public safety, while encouraging innovation and greater stakeholder awareness and collaboration. These key rulemakings are detailed below.

Of the mandates from the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, PHMSA has eight of 42 mandates remaining. Additionally, of the mandates from the Protecting Our Infrastructure of Pipelines and Enhancing Safety Act of 2016, PHMSA has four of 19 mandates remaining.

Together, of the 12 remaining mandates from the 2011 and 2016 Acts, four are tied to reports and other actions, and eight are tied to rulemaking efforts that PHMSA is continuing to make progress on under its established rulemaking process.

As Administrator, I am committed to doing everything I can to complete all the remaining rulemakings that address Congressional directives related to pipeline safety. I believe completing these mandates will result in significant positive impacts to pipeline safety.

Completing rulemakings takes time simply because it is an iterative process that is designed to encourage maximum participation by all stakeholders, thus ensuring comprehensive rules that protect the public and stand up to cost/benefit scrutiny. PHMSA holds public meetings and workshops prior to rulemakings, using the information gathered to craft the most effective rules possible. Such collaboration, well in advance of the rulemaking process, allows PHMSA to identify concerns and potential solutions to allocate its scarce resources where they are needed most.

In addition to mandates, many of PHMSA's rulemakings underway address important recommendations from the National Transportation Safety Board (NTSB), resulting from safety issues identified during accident investigations. PHMSA's rules also address recommendations from the U.S. Government Accountability Office (GAO) and the DOT Inspector General (IG), and the agency's own safety findings. PHMSA must make sure that its regulations account for known safety issues, technological feasibility, and cost effectiveness.

In short, a lot of work goes on behind the scenes to get a rule ready for publication, and PHMSA is making positive movement towards completing the safety crit-



ical mandates and addressing recommendations from Congress, the NTSB, GAO, and IG, as well as our own safety findings.

#### *A. Hazardous Liquid Rule*

PHMSA understands the importance of moving forward its long-awaited Safety of Hazardous Liquid Pipelines rulemaking, which was included in the 2011 Act. This rulemaking would amend the pipeline safety regulations to improve protection of the public, property, and the environment by closing regulatory gaps where appropriate. In addition, this rule is intended to ensure that operators are increasing the detection and remediation of unsafe conditions, and mitigating the adverse effects of hazardous liquid pipeline failures. This rule is one of PHMSA's highest priorities and is on track to be completed and published in 2019.<sup>1</sup>

#### *B. Gas Transmission Rule*

PHMSA is also making significant progress toward finalizing its gas transmission and gathering pipeline rulemaking efforts. This is intended to help close two very important open mandates related to the expansion of integrity management principles and requirements for operators to confirm the maximum allowable operating pressure of certain gas pipelines. These changes are expected to allow operators to assess more pipelines and better understand their systems' conditions.

When finalizing the "Safety of Gas Transmission and Gathering Pipelines" notice of proposed rulemaking (NPRM), the proposed rule was under review for nearly 2 years. Delays were largely due to the proposed rule being too big and unwieldy to move through the administrative process. Accordingly, PHMSA made the strategic decision to split the initial proposed rule into smaller, more manageable rulemaking actions. The split will help PHMSA manage each individual rule more efficiently; and, most importantly, prioritize Congressional directives on gas pipelines. Additionally, while working to complete the Congressional mandates this rulemaking will address, PHMSA is also using its resources to incorporate and advance several recommendations from the NTSB and GAO as part of the rule.

PHMSA's goal is to publish the final rule addressing Congressional directives this year,<sup>2</sup> and will continue working to ensure that the other rules follow closely behind.

#### *C. Valve and Rupture Detection Rule*

PHMSA is developing an NPRM to address leak and rupture detection.<sup>3</sup> The Shutoff Valve and Rupture Detection rule will meet the goals of two Congressional directives. It proposes revisions to the pipeline safety regulations for newly constructed or entirely replaced natural gas transmission and hazardous liquid pipelines. In doing so, the rule is intended to improve rupture mitigation and shorten the time it takes to shut down a pipeline segment. The rule will also address recommendations from the NTSB and is expected to help reduce the serious consequences of large-volume releases of natural gas and hazardous liquids.

PHMSA is proposing standards for operators to utilize rupture detection metrics for valve placement to improve incident response in populated or environmentally sensitive areas. Rupture response metrics would focus on mitigating large release events that have a greater potential consequence. This rulemaking is currently under comprehensive review at the Department and we are working to move it forward as expeditiously as possible.

#### *D. Plastic Gas Pipe Rule*

This rule, published in November 2018, updated pipeline safety regulations to allow for the modernization of plastic pipe material, design, and construction standards. This final rule also responds to plastic pipe installation and operational safety concerns identified by federal and state field inspectors. With this rule, new or replaced local gas distribution systems will be built and maintained with the most advanced pipeline technology, which is expected to greatly improve public safety for local communities.

#### *E. Hazardous Materials Transportation Directives from Congress*

PHMSA also regulates the safety of hazardous materials by all modes of transportation, including by highway, railroad, vessel, and airways. Although PHMSA's two

<sup>1</sup>Per the DOT February 2019 Significant Rulemaking Report, the projected publication date for the final rule is 5/27/19.

<sup>2</sup>Per the DOT February 2019 Significant Rulemaking Report, the projected publication date for the final rule is 7/2/19.

<sup>3</sup>Per the DOT February 2019 Significant Rulemaking Report, the projected publication date for the NPRM is 8/7/19.

program offices are authorized separately, we are one PHMSA. We share resources, knowledge, and most importantly, we share the same safety goals.

On February 28, 2019, PHMSA, in coordination with the Federal Railroad Administration, issued a final rule that amends the Hazardous Materials Regulations requirements for comprehensive oil spill response plans and information sharing. This rule was requested by Congress in the fiscal year 2016 Consolidated Appropriations Act. The rulemaking sets safety standards for rail operator response to incidents involving crude oil transported by rail.

Additionally, on March 6, 2019, PHMSA, in collaboration with the Federal Aviation Administration (FAA), published an interim final rule (IFR) for the safe transport of lithium batteries by aircraft. The IFR is first of PHMSA's completed actions in addressing directives included in the FAA Reauthorization Act of 2018. This IFR prohibits the transport of lithium ion cells or batteries as cargo on passenger aircraft. In addition, the IFR requires lithium ion cells and batteries to be shipped at not more than a 30 percent state of charge aboard cargo-only aircraft. The IFR is intended to strengthen safety for the traveling public by addressing the unique challenges lithium batteries pose in transportation.

#### *F. Regulatory Reform*

While PHMSA works to complete its regulatory agenda, the agency is also committed to improving the effectiveness of our regulatory program by conducting a comprehensive evaluation of current, in-progress, and planned regulations.

PHMSA's rulemaking efforts are driven by the belief, consistent with Executive Orders 13771, 13777, and 13783 and other legal authorities, that there should be no more regulations than necessary, and those regulations should be straightforward, clear, and designed to minimize burdens, consistent with safety. We also believe that public input is a critical part of the rulemaking process and have proactively sought public comments on our regulatory review and rulemaking efforts. PHMSA is using public input to decide on the best approach, consistent with our regulatory philosophy, to meeting the Department's statutory obligations.

PHMSA's review will help to ensure that its regulations are right-sized—which can allow operators to put additional resources where they will have the maximum safety impact, such as greater investment in safety research and development and technology-based safety enhancements.

As always, our focus is ultimately on safety performance. It is the responsibility of the oil and gas industry to understand and manage the risks of their systems. The current regulatory climate gives us all a unique opportunity to work together to optimize our regulations for safety. The pipeline industry should continue to invest in and accelerate their pipeline safety efforts and make substantive safety improvements best suited to their systems and without specific direction from regulations.

### III. OTHER ACTIONS

In addition to completing the important mandates given to it by the Congress, PHMSA continues to aggressively pursue its core safety mission through grants to states and communities, research and development initiatives, and additional safety programs.

#### *A. Support for States*

PHMSA's state pipeline safety partners oversee more than 80 percent of the nation's pipeline infrastructure—much of it gas distribution pipelines—through annual certification with PHMSA.

An important part of these partnerships is that PHMSA stands ready to support states in times of crisis. In the wake of hurricanes Harvey, Florence, Irma, Maria, and Michael, PHMSA worked with impacted states and pipeline operators to remove obstacles that could delay safe and rapid recovery efforts. PHMSA coordinated and provided periodic updates to Federal partners during the response and recovery phases of each natural disaster to assist with the movement of hazardous materials and energy products. For pipelines, PHMSA issued emergency stays of enforcement for affected operators, temporarily halting its enforcement of compliance with operator qualification and pre-employment and random drug testing requirements to allow affected interstate gas and hazardous liquid pipeline operators to use personnel for urgent response and recovery activities. PHMSA also notified impacted state pipeline safety partners that PHMSA would not object to them issuing similar temporary waivers for affected intrastate pipeline operators, in the interest of prompt and efficient pipeline safety activities related to response and recovery efforts. Expediting pipeline repairs and restoration of service to those areas was our top priority.

In addition, PHMSA provides help to facilitate investigation and recovery following major incidents. In the wake of the tragic September 13, 2018 natural gas accident involving Columbia Gas of Massachusetts, PHMSA quickly dispatched a team of inspectors to Massachusetts to provide technical assistance to the Massachusetts Department of Public Utilities (MA DPU) and the NTSB.

PHMSA's pipeline inspectors played an instrumental role in the investigation, helping to determine the cause of the incident, and explaining the mechanics of how such an accident could occur. The Governor of Massachusetts, the mayors of the three affected towns, the NTSB, the incident commander, our state partners in the MA DPU, and members of the Massachusetts Emergency Management Agency all expressed their appreciation of the help provided by PHMSA's pipeline safety team and cited their professionalism, experience, and knowledge as being crucial to the success of the overall response to the incident.

PHMSA also supports state programs by providing essential technical training. Our state-of-the-art Training and Qualifications (T&Q) program has full accreditation from the International Association for Continuing Education and Training (IACET). The T&Q Center trains an average of 900 state and federal inspectors annually, ensuring that all are current on updated regulations, technology, and best practices.

PHMSA's T&Q Center is committed to developing innovative ways to be more accessible and effective, including the exploration of long-distance proctored classes, curriculum improvements, and more efficient delivery to ensure relevancy. The T&Q Center is also working to develop an effective and efficient distance delivery system that does not sacrifice the high quality of PHMSA's training curricula. PHMSA's goal is to make it easier for state and federal inspectors to access the courses they need quickly and at a lower cost.

#### *B. Grants*

The financial support PHMSA provides to its state partners through grants is another vital part of its partnerships. In total, PHMSA provided over \$63 million in grant funding in fiscal year 2018 for pipeline inspection, enforcement, and safety awareness activities.

PHMSA's State Base Grant program<sup>4</sup> reimburses a portion of each partner state's program expenses. The grants partially cover the cost of any personnel, equipment, and activities reasonably required for the conduct of the pipeline safety program. Most importantly, PHMSA's grants provide state programs a consistent source of funding to hire and maintain adequate pipeline safety inspectors. For fiscal year 2018, PHMSA awarded \$56 million to participating state programs.<sup>5</sup> As the number of miles of pipeline infrastructure continues to grow and as the older pipes age, this grant program is critical to the oversight of the nation's distribution pipeline systems.

PHMSA's Technical Assistance Grants (TAGs) provide funding for technical assistance related to pipeline safety issues to local communities and non-profit organizations, where they make direct impacts to pipeline safety at the grassroots level. The TAGs can be used for engineering or other scientific analysis of pipeline safety issues and are also used to promote public participation in official proceedings. Since the program's inception in 2009, PHMSA has awarded over \$10 million for 200 individual technical assistance projects. PHMSA issued a Notice of Funding Opportunity for its fiscal year 2019 TAG grants in March and expects to award \$1.5 million in grant funds to several recipients (up to \$100,000 each) by September 2019.

PHMSA's 811 One Call Grant Program provides funding to state agencies for promoting damage prevention awareness, including changes with their state underground damage prevention laws, related compliance activities, training and public education. This grant program is for states that have a certification or agreement with PHMSA to perform pipeline safety inspections. Last year, PHMSA awarded \$1.1 million across 31 state agencies to assist in these efforts.

Finally, I am pleased to say that in 2018 PHMSA awarded its first ever round of Underground Natural Gas Storage Grants—first authorized in 2016—in support of states' inspection and enforcement of underground natural gas storage facilities. The grants are used to reimburse up to 80 percent of the costs a state incurs for inspectors, equipment, and safety activities for the oversight of underground storage facilities.

<sup>4</sup>The State Base Grant is a formula grant that authorizes awards to state pipeline safety programs under the authority of 49 U.S.C. § 60107—State Pipeline Safety Grants.

<sup>5</sup>All states except Alaska and Hawaii participate in PHMSA's pipeline safety program.

### *C. Damage Prevention*

Excavation damage continues to be a leading cause of pipeline incidents. This year, PHMSA began issuing enforcement actions against excavators who damage pipelines in states that do not adequately enforce their own excavation damage prevention laws. PHMSA continues to support states with efforts to improve their own enforcement programs. PHMSA has seen marked improvements since 2016 in 14 states that have changed from inadequate to adequate programs per the PIPES Act of 2006 and our regulatory criteria. PHMSA continues to work with the 13 remaining states with inadequate programs to bring all programs up to an adequate level.

I would also like to thank all PHMSA stakeholders—especially the public—for the continued success of the national Call-Before-You-Dig number, 811. Over the past 10 years, since 811 was established, pipeline incidents caused by excavation damage have fallen 40 percent. This decline would not have been possible without strong collaboration from all stakeholders.

### *D. Advancing Domestic Energy*

In August 2018, PHMSA established a new Memorandum of Understanding (MOU) with the Federal Energy Regulatory Commission (FERC) that eliminates unnecessary and duplicative regulatory reviews by both agencies when permitting new Liquefied Natural Gas (LNG) export facilities. Going forward, PHMSA will operate as the Federal Government's LNG safety expert for Federal regulations covering the safety of LNG facilities and will be solely responsible for conducting the necessary safety analysis for new LNG facilities that may be permitted by FERC.

PHMSA assesses each LNG facility application for FERC on a case-by-case basis to determine whether the application meets the minimum Federal Pipeline Safety Standards for the location of a new LNG facility. So far, PHMSA has issued eight Letters of Determination to FERC under the MOU.<sup>6</sup> This agreement may help reduce the time it takes to obtain a new LNG export permit by as much as one year.

### *E. Integrity Management*

PHMSA continues to require integrity management programs that ensure operators are adequately identifying and addressing the greatest risks. Under integrity management, operators are required to conduct integrity assessments of gas transmission and hazardous liquid pipeline systems in high consequence areas and apply lessons learned across their entire system. Thanks to integrity management, gas transmission and hazardous liquid pipeline operators have identified and conducted over 90,700 repairs in high consequence areas between 2004 and 2017.

### *F. Research and Development*

PHMSA's Research and Development (R&D) program supports new technology to further improve pipeline safety. The R&D program sponsors research on projects that can provide near-term solutions to improve safety, reduce environmental impacts, and enhance the reliability of the Nation's pipeline transportation system.

Since 2002, PHMSA has invested nearly \$125 million dollars in 304 R&D projects and, in the past six months, two new technologies for methane leak detection and one to prevent excavation damage threats have been commercialized. Since the program's inception, 31 patent applications and 31 new pipeline technologies have hit the market, including above-ground, radar-based pipeline mapping and a robotic nondestructive testing method for pipelines that cannot accommodate traditional in-line inspection tools.

PHMSA's pipeline safety program also takes a far-reaching view with its Competitive Academic Agreement Program (CAAP), which funds academic research to provide tomorrow's pipeline safety workforce with an early opportunity to contribute safety solutions. The CAAP program, launched in 2013, helps validate proof of concept for theories and theses that can be developed and further investigated. The program also serves to expose the next generation of engineers to pipeline challenges and solutions. In September 2018, PHMSA awarded more than \$3.8 million to 11 universities via the CAAP.

## IV. CONCLUSION

Safety remains the highest priority for the U.S. Department of Transportation and for PHMSA. The agency is continuing to work hard to publish the rules and reports that will close Congressional mandates, and is also committed to addressing safety matters on all fronts.

As pipeline mileage across our country continues to grow, the need for strong pipeline safety standards and programs is ever more important.

<sup>6</sup>As of March 28, 2019.

Thank you again for inviting me to today's hearing. I look forward to your questions.

Mr. LIPINSKI. Thank you, Mr. Elliott.

I now recognize Ms. Homendy.

Ms. HOMENDY. Thank you. Good morning, Chairman Lipinski, Ranking Member Crawford, Chairman DeFazio, and members of the subcommittee. Thank you for inviting the National Transportation Safety Board to testify today.

The NTSB is an independent Federal agency charged by Congress with investigating major transportation disasters, including pipelines. We determine the probable cause of accidents and issue safety recommendations aimed at preventing future tragedies and saving lives.

Pipelines are one of the safest and most efficient modes of transportation, but when safety standards are inadequate or disregarded or when Federal or State agencies fail to conduct proper oversight, the consequences can be devastating.

During this hearing, I will be asked about a number of NTSB investigations, so I want to take a moment to remind us why we are here. Lives were lost. Families will never be the same. So, on behalf of the NTSB, I want to once again extend our deepest condolences to those who lost loved ones or who have been impacted by pipeline tragedies.

Now I want to thank each of you. Over the years, Congress has been a true partner in advancing many of the NTSB's safety recommendations. Working together, we have saved lives.

In 1998, we investigated a gas pipeline explosion and fire in Virginia. A family was spending their first night in their new home. Tragically, the wife was killed, and the husband and both children were injured. We determined that had an excess flow valve been installed on the line the accident would never have occurred.

The NTSB had been recommending the installation of excess flow valves for nearly 30 years. In 2006, this committee took action and mandated their installation on new single-family residential lines. In 2012, you expanded that requirement to multifamily residences and small commercial facilities. I am proud to say that in 2016 we closed that recommendation favorably, following PHMSA's issuance of the final rule.

Now we turn our attention to closing 36 open NTSB safety recommendations, 3 of which are designated as "open—unacceptable action." Many of these are included in our "most wanted list" of transportation safety improvements. Some were addressed in the 2011 and 2016 acts but haven't been implemented. Yet tragedies continue to occur.

Two significant NTSB recommendations urged the installation of automatic shutoff or remote control valves in high-consequence areas and addressed repeated failures of pipeline operators to detect ruptures and leaks and take appropriate action.

In 2010, a gas transmission pipeline ruptured and ignited in San Bruno, California. It took the operator 95 minutes to stop the flow of gas and severely hindered emergency response operations. Tragically, eight people were killed and many more were injured. Thirty-eight homes were destroyed; seventy others were damaged.

That same year, a pipeline rupture occurred in Marshall, Michigan, and this committee investigated that accident. That rupture released nearly 1 million gallons of heavy crude oil in surrounding waterways and communities. It took the operators 17 hours to identify the rupture and shut down the line.

And in 2015 we investigated a release of 4,000 gallons of gasoline from a pipeline in Centreville, Virginia. The operator didn't detect the leak for 2 days—well after firefighters had contacted pipeline personnel, who assured them that there were no irregularities on the line.

The fact is that most pipeline ruptures and leaks aren't detected by pipeline operators; they are detected by the public and emergency responders. Research that was mandated by Congress in 2011 shows that only 17 percent of releases are identified by control room operators.

The NTSB has been studying the effects of delay in shutting down failed pipeline systems since 1970. We have issued recommendation after recommendation to address our concerns, and in 2011 Congress required their implementation. Yet they remain unaddressed.

With respect to additional safety needs, briefly, PHMSA regulations require pipeline operators to accurately identify high-consequence areas, determine threats to their pipelines, continually evaluate those lines using appropriate inspection methods, and repair any defects identified. This is known as integrity management.

We have investigated three accidents which raised significant concerns with how operators are implementing these programs. As a result, the NTSB has issued 28 recommendations to improve integrity management, 10 of which remain on our "most wanted list."

Thank you again for the opportunity to testify today. I am happy to answer any questions.

[Ms. Homendy's prepared statement follows:]

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**Prepared Statement of Hon. Jennifer Homendy, Member, National Transportation Safety Board**

Good morning Chairman Lipinski, Ranking Member Crawford, and Members of the Subcommittee. Thank you for inviting the National Transportation Safety Board (NTSB) to testify today.

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents and incidents in other modes of transportation—railroad, highway, marine and pipeline. We determine the probable cause of accidents and other transportation events and issue safety recommendations aimed at preventing future accidents. In addition, we conduct special transportation safety studies and coordinate the resources of the federal government and other organizations to assist victims and their family members who have been impacted by major transportation disasters.

Our Office of Railroad, Pipeline and Hazardous Materials Investigations investigates pipeline accidents involving the release of natural gas, hydrocarbon liquid, ammonia, or carbon dioxide in which there are fatalities or substantial property damage. Pipeline accident investigations focus on the cause of the release, the emergency response, and in the case of hydrocarbon pipelines, the actions taken to mitigate the spill. Based on these accident investigations, the NTSB issues safety recommendations to federal and state regulatory agencies, industry and safety standards organizations, pipeline operators, and emergency response organizations.

## PIPELINE SAFETY IN THE UNITED STATES

More than 2.5 million miles of pipelines that crisscross the nation, delivering important resources, such as natural gas, oil, and other hazardous liquids, to consumers. Pipelines are integral to our economy, providing the fuel that powers our homes and industries.<sup>1</sup>

Pipelines are one of the safest and most efficient modes of transportation, but when their integrity is compromised, the consequences can be devastating, especially when safety standards are not observed or implemented.

The NTSB has completed more than 120 investigations of hazardous liquid pipeline ruptures and natural gas pipeline explosions, since 1967, which have demonstrated the potential for loss of life and property damage. Additionally, NTSB has eight open pipeline investigations, including Merrimack Valley, Massachusetts, Silver Spring, Maryland, and Dallas, Texas, in which lives were lost, homes destroyed, and communities severely affected.<sup>2</sup>

In response to these accident investigations, the NTSB has issued more than 1,300 recommendations to federal, state, and local agencies, and industry. More than 80 percent of these recommendations have been closed favorably, meaning they have been adopted by their recipients, mandated by Congress, or implemented through federal agency action, resulting in significant improvements in pipeline safety.

For example, in 1998, the NTSB investigated a natural gas pipeline explosion and fire in the South Riding community of Loudon County, Virginia. A family consisting of a husband and wife and their two children were spending their first night in their new home at the time of the explosion. As a result of the accident, the wife was killed, the husband was seriously injured, and the two children received minor injuries. The NTSB found that had an excess flow valve been installed on the line, the accident would never have occurred. Excess flow valves automatically close and restrict gas flow when there is an excess flow of gas in the pipeline. The NTSB had been recommending the installation of excess flow valves for nearly 30 years. In 2006, Congress enacted the Pipeline Inspection, Enforcement, and Protection Act which required the installation of excess flow valves on all new and replaced single-family residential service lines.<sup>3</sup> In 2012, Congress enacted the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 which expanded that requirement to multi-family residences—including apartment buildings—and small commercial facilities.<sup>4</sup> I am proud to say that the NTSB closed the South Riding recommendation on December 5, 2016, following issuance of a final rule.

However, there are provisions in current law related to NTSB pipeline safety recommendations that have not been implemented, such as automatic or remote-control shutoff valves, and other recommendations that have not been acted upon. We continue to see accidents and incidents that remind us of the need to be ever-vigilant in improving safety.

#### *Merrimack Valley, Massachusetts*

On September 13, 2018, a series of explosions and fires occurred throughout the northeast region of the Merrimack Valley after high-pressure natural gas was released into a low-pressure distribution system, resulting in 1 fatality and injuring at least 21 individuals, including 2 firefighters. Seven other firefighters received minor injuries. The distribution system was owned and operated by Columbia Gas of Massachusetts, a subsidiary of NiSource, Inc. The system overpressure damaged 131 structures, including at least 5 homes that were destroyed in the city of Lawrence and the towns of Andover and North Andover. Most of the damage was a result of structure fires ignited by gas-fueled appliances.

While this investigation is ongoing, NTSB has issued five interim safety recommendations, including four which are classified as “urgent.” We only issue urgent recommendations when we determine that the course of action requires immediate attention to avoid imminent loss due to a similar accident.

One recommendation calls upon the Commonwealth of Massachusetts to eliminate the existing professional licensure exemptions and require the seal of a professional engineer (PE) on all public utility engineering drawings.<sup>5</sup> The NTSB believes that it is critical that an engineer with appropriate qualifications and experience review engineering plans for a gas company, if not develop them. Massachusetts’ exemption

<sup>1</sup> National Transportation Safety Board, *2019–2020 Most Wanted List: Ensure the Safe Shipment of Hazardous Materials—Pipeline*.

<sup>2</sup> See Appendix for all open pipeline investigations.

<sup>3</sup> Public Law 109-468

<sup>4</sup> Public Law 112-90

<sup>5</sup> National Transportation Safety Board, Safety Recommendation P-18-005.

for the requirement of PE licensure to perform “industrial” and public utility work forecloses an opportunity to detect this design oversight. The seal of a PE should be required on all public utility engineering plans to reduce the likelihood of an accident. On December 31, 2018, Gov. Charlie Baker signed into law legislation requiring such; the Massachusetts Department of Public Utility is in the process of promulgating regulations.<sup>6</sup>

The four urgent safety recommendations were issued to NiSource: (1) revise the engineering and constructability review process to include all internal departments and require plans to be sealed by a PE prior to construction; (2) ensure that all natural gas systems records are complete and readily available; (3) incorporate risk assessments into project development; and, (4) while any modifications are being made to gas mains, actively monitor pressures and require personnel to be in place to immediately respond to any abnormal changes in the pipeline system. As this investigation progresses or following the Board’s adoption of the final report, the NTSB may issue additional safety recommendations to improve pipeline safety and prevent occurrence of a similar tragedy.<sup>7</sup>

#### MOST WANTED LIST OF TRANSPORTATION SAFETY IMPROVEMENTS

On February 4, 2019, we announced our Most Wanted List of Transportation Safety Improvements for 2019-2020.<sup>8</sup> This list identifies 10 focus areas for transportation safety improvements based on safety issues identified through our investigations. Many of the issues on the Most Wanted List address multimodal challenges for improving safety, including alcohol and other drug impairment and fatigue. One issue area is specific to pipeline safety: Ensuring the Safe Shipment of Hazardous Materials.

There are currently 36 open pipeline safety recommendations, 32 of which are on our Most Wanted List: 24 to the Pipeline and Hazardous Material Safety Administration (PHMSA), 9 to industry, and 3 to state regulators.<sup>9</sup> Three of the Most Wanted recommendations to PHMSA are designated as “Open—Unacceptable Response.” While the NTSB appreciates progress made by PHMSA on many of our recommendations, they cannot lose focus and must see all safety recommendations through to completion.

#### *Automatic Shutoff and Remote Control Valves*

One significant NTSB recommendation urges the use of automatic shutoff or remote control valves in high consequence areas (HCAs) based on an investigation in San Bruno, California.<sup>10</sup>

On September 9, 2010, a 30-inch-diameter segment of an intrastate natural gas transmission pipeline owned and operated by the Pacific Gas and Electric Company (PG&E) ruptured in a residential area in San Bruno. In the 95 minutes it took PG&E to stop the flow of natural gas, an estimated 47.6 million standard cubic feet of gas was released. The released natural gas ignited, resulting in a fire that destroyed 38 homes and damaged 70. Eight people were killed, many were injured, and many more were evacuated from the area.

The NTSB found that the 95 minutes it took PG&E to stop the flow of gas was excessively long and contributed to the extent and severity of property damage and increased the life-threatening risks to the residents and emergency responders. Use of automatic shutoff or remote control valves would have significantly reduced the amount of time taken to stop the flow of gas and to isolate the rupture.

The NTSB recommended that PHMSA amend Title 49 Code of Federal Regulations 192.935(c) to directly require that automatic shutoff or remote control valves in high consequence areas and in class 3 and 4 locations be installed and spaced at intervals that consider the factors listed in that regulation.<sup>11</sup> Current PHMSA regulations leave the decision of whether to install an automatic shutoff or remote control valve up to operators, based on their evaluation of certain factors. The NTSB believes the requirement should be mandatory.

<sup>6</sup>An Act Further Providing for the Safety of the Commonwealth’s Natural Gas Infrastructure. Mass. Gen. Laws ch. 339 (2018).

<sup>7</sup>National Transportation Safety Board, Safety Recommendations: P-18-006, P-18-007, P-18-008, P-18-009.

<sup>8</sup>National Transportation Safety Board, *2019–2020 Most Wanted List*.

<sup>9</sup>See Appendix for all open pipeline safety recommendations.

<sup>10</sup>HCAs are defined by federal regulation and are areas where a release could have the most significant adverse consequences, including populated areas, areas with a number of structures, drinking water sources, and unusually sensitive areas.

<sup>11</sup>National Transportation Safety Board, Safety Recommendations: P-11-011



This was not the first time that the NTSB recommended the installation of automatic shutoff or remote control valves. Several near identical recommendations were issued in the 1980s, 1990s, and early 2000s to the Office of Pipeline Safety of the Department of Transportation and the Research and Special Programs Administration, the predecessors of PHMSA, and the industry that were closed and designated as “Unacceptable Action” because of their failure to implement the recommendation.

Three months after NTSB issued its San Bruno recommendations, Congress passed the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 (2011 Act) requiring the use of automatic shutoff or remote control valves within two years. PHMSA has initiated but not completed the rulemaking process. PHMSA’s last communication with NTSB stated: “Publication of the proposed rule was initially expected to publish in spring 2017. Like many other issues before us, this is part of an ongoing regulatory review pursuant to the executive order issued by the President.”

There are additional open recommendations from the San Bruno investigation to PHMSA that Congress addressed in the 2011 Act, including requirement (1) all operators of natural gas transmission and distribution pipelines equip their systems with tools to identify and pinpoint the location of leaks; (2) all gas transmission pipelines constructed before 1970 be subjected to a hydrostatic pressure testing; and (3) any manufacturing- and construction-related defects be tested by a postconstruction hydrostatic pressure test of at least 1.25 times the maximum allowable operating pressure.<sup>12</sup> These recommendations remain on the NTSB’s Most Wanted List of Transportation Safety Improvements and should be implemented by PHMSA expeditiously.

#### *Leak Detection*

The NTSB has investigated a number of accidents where operators failed to detect a leak, significantly impacting response time. In San Bruno, control center staff had difficulties determining that there had been a pipeline break and quickly pinpointing its location. Accordingly, the NTSB recommended that PHMSA require that all operators of natural gas transmission and distribution pipelines equip their supervisory control and data acquisition systems with tools to assist in recognizing and pinpointing the location of leaks, including line breaks. The recommendation remains on the NTSB’s 2019-2020 Most Wanted List of Transportation Safety Improvements.

The NTSB’s investigation of one of the largest inland oil spill in U.S. history found deficiencies in the operator’s detection of a leak which led to significant delays in stopping the flow of crude oil. On July 25, 2010, a segment of a 30-inch-diameter pipeline, owned and operated by Enbridge Incorporated (Enbridge) ruptured in a wetland in Marshall, Michigan. The rupture was not discovered or addressed until Enbridge was notified by an outside caller more than 17 hours later. The oil saturated the surrounding wetlands and flowed into the Talmadge Creek and the Kalamazoo River; the total release was estimated to be 843,444 gallons of crude oil. Local residents self-evacuated from their houses, and the environment was negatively affected. Costs exceeded \$1.2 billion. About 320 people reported symptoms consistent with crude oil exposure. Fortunately, there were no fatalities.

Similarly, the NTSB’s investigation of a pipeline release near Centreville, Virginia, on September 21, 2015, found significant deficiencies in the ability of Colonial Pipeline Company (Colonial) to detect a leak in their large diameter pipeline that transports gasoline and other refined petroleum liquids. The incident was initially reported by an employee of a restaurant in Centreville who called the Fairfax County 911 Center to report a gasoline odor. Colonial confirmed the pipeline leak two days later, after their inspectors and control room center personnel reported that there were no abnormalities on the pipeline and that all line pressures were normal.

The leak occurred in an HCA. Fortunately, no fatalities or injuries resulted from the release. Colonial estimated that 4,000 gallons of gasoline were released from the pipe; flammable vapor in storm drains was as high as 100 percent of the lower explosive limit (potentially explosive in an ignition source is present).

The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 included measures to improve leak detection capabilities; PHMSA has not yet implemented those measures. Leak detection remains on the NTSB’s Most Wanted List for Transportation Safety Improvements. The NTSB recommendation stemming from the Colonial Pipeline incident is designated as “Open—Unacceptable Response.”<sup>13</sup>

<sup>12</sup> National Transportation Safety Board, Safety Recommendations: P-11-010, P-11-014, P-11-015.

<sup>13</sup> National Transportation Safety Board, Safety Recommendation P-17-002.

### *Integrity Management Programs*

In the last eight years, the NTSB has completed three major gas transmission pipeline accident investigations in which deficiencies with the operators' integrity management (IM) programs and PHMSA oversight were identified as a concern.<sup>14</sup> These three accidents—located in Palm City, Florida; San Bruno, California; and Sissonville, West Virginia—resulted in 8 fatalities, more than 50 injuries, and 41 homes destroyed, with many more damaged. As we have learned from these investigations, ensuring adequate IM programs and oversight of pipelines transporting natural gas and hazardous liquids remains critically important.

Since 2004, PHMSA has required the operators of these pipelines to develop and implement IM programs to ensure the integrity of their pipelines in HCAs to reduce the risk of injuries and property damage from pipeline failures.<sup>15</sup> An operator's IM program is a management system designed and implemented to ensure the operator's pipeline system is safe and reliable. It consists of multiple components, including procedures and processes for identifying HCAs, determining likely threats to the pipeline within the HCA, evaluating the physical integrity of the pipe within the HCA, and repairing or remediating any pipeline defects found. These procedures and processes are complex and interconnected. Effective implementation of an IM program relies on continual evaluation and data integration. The IM program is an ongoing program that PHMSA and state regulatory agencies periodically inspect to ensure operator compliance with regulatory requirements.

In January 2015, the NTSB's Safety Research Division conducted a safety study using the results from the completed investigations and additional research to identify weaknesses in the implementation of gas transmission pipeline IM programs in HCAs. The study, *Integrity Management of Gas Transmission Pipelines in High Consequence Areas*, found that, although PHMSA's gas IM requirements have kept the rate of corrosion failures and material failures of pipe or welds low, no evidence exists to show that the overall occurrence of gas transmission pipeline incidents in HCA pipelines has declined.<sup>16</sup> Rather, the study identified areas where improvements need to be made to further enhance the safety of gas transmission pipelines in HCAs.

We recognize that IM programs are complex and require expert knowledge and integration of multiple technical disciplines including engineering, material science, geographic information systems, data management, probability and statistics, and risk management. This complexity requires pipeline operator personnel and federal and state pipeline inspectors to have a high level of practical knowledge and skill to adequately perform their functions. This complexity can make IM program development and implementation, and the evaluation of operators' compliance with IM program requirements, difficult. The study illustrated the need to expand and improve PHMSA resources in guiding both operators and federal and state inspectors.

The effectiveness of an IM program depends on many factors, including how well threats are identified and risks are estimated. This information guides the selection of integrity assessment methods that discover pipeline system defects that may need remediation. The study found that aspects of the operators' threat identification and risk assessment processes require improvement. Further, the study found that of the four different integrity assessment methods (pressure test, direct assessment, in-line inspection, and other techniques), in-line inspection yields the highest per-mile discovery of pipe anomalies, and the use of direct assessment as the sole integrity assessment method has numerous limitations. Compared to their interstate counterparts, intrastate pipeline operators rely more on direct assessment and less on in-line inspection.

As a result of the safety study, the NTSB issued 28 new recommendations. Of these, 22 were issued to PHMSA and 1 previous recommendation issued to PHMSA was reiterated.<sup>17</sup> These include improvements to the training of state inspectors, the National Pipeline Mapping System, and the current process for identifying HCAs; requirements for in-line inspection of natural gas pipelines; and, eliminating the use

<sup>14</sup>National Transportation Safety Board, *Columbia Gas Transmission Corporation Pipeline Rupture Sissonville, West Virginia on December 11, 2012*, Rpt. No. NTSB/PAR-14/01 (February 19, 2014); *Rupture of Florida Gas Transmission Pipeline and Release of Natural Gas Near Palm City, Florida*, Accident Brief No. NTSB/PAB-13/01 (August 13, 2013); *Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire San Bruno, California on September 9, 2010*, Rpt. No. NTSB/PAR-11/01 (August 30, 2011).

<sup>15</sup>Title 49 Code of Federal Regulations (CFR) Part 192, Subpart O.

<sup>16</sup>National Transportation Safety Board, *Integrity Management of Gas Transmission Pipelines in High Consequence Areas*, No. NTSB/SS-15/01 (January 27, 2015).

<sup>17</sup>National Transportation Safety Board, *Safety Recommendations: P-15-001 through -028, and P-11-007*.

of direct assessment as the sole integrity assessment method for gas transmission pipelines.

Nine of the recommendations to PHMSA resulting from the safety study are classified as closed with an acceptable action or reconsidered. The remaining 13 are open; 10 of them are listed on the NTSB's Most Wanted List of Transportation Safety Improvements. The remaining six recommendations, issued to industry, are all classified as "Closed—Acceptable Action."

#### "OPEN—UNACCEPTABLE RESPONSE" RECOMMENDATIONS TO PHMSA

The NTSB would like to highlight three recommendations to PHMSA stemming from our investigations in Marshall, Michigan, Sissonville, West Virginia, and Centreville, Virginia that are designated as "Open—Unacceptable Response": P-12-3, P-14-1, and P-17-2. All three of these recommendations are included in the NTSB's Most Wanted List of Transportation Safety Improvements.

P-12-3 recommended PHMSA revise existing federal regulations to clearly state: (1) when an engineering assessment of crack defects, including environmentally assisted cracks, must be performed; (2) the acceptable methods for performing these engineering assessments, including the assessment of cracks coinciding with corrosion with a safety factor that considers the uncertainties associated with sizing of crack defects; (3) criteria for determining when a probable crack defect in a pipeline segment must be excavated and time limits for completing those excavations; (4) pressure restriction limits for crack defects that are not excavated by the required date; and (5) acceptable methods for determining crack growth for any cracks allowed to remain in the pipe, including growth caused by fatigue, corrosion fatigue, or stress corrosion cracking as applicable.<sup>18</sup>

This recommendation was issued following an investigation of the Enbridge pipeline rupture in Marshall, Michigan, which found, that five years prior to the rupture, in 2005, Enbridge identified crack defects during an in-line inspection of the pipeline ranging up to 51.6 inches that were left unrepaired.

While PHMSA published a notice of proposed rulemaking (NPRM) in October 2015 to address our recommendation, the changes proposed to requirements for scheduling crack defect remediation only addressed indications of significant stress corrosion cracking (SCC). We reiterated that the recommendation refers to all forms of crack defects, not just SCC. By only addressing crack indications identified as SCC colonies, the proposed regulation does not limit or otherwise describe requirements for remediating other types of crack indications, including the indication associated with the crack that led to the rupture in Marshall, Michigan.

P-14-1 recommended PHMSA revise existing federal regulations to add principal arterial roadways to the list of "identified sites" that establish an HCA.<sup>19</sup>

This recommendation was issued following an investigation into an explosion and subsequent fire from a 20-inch natural gas transmission pipeline in a sparsely populated area along Interstate 77 near Sissonville, West Virginia on December 11, 2012. About 76 million cubic feet of natural gas was released and burned. While there were no fatalities or serious injuries, three homes were destroyed. The Board determined the probable cause of the pipeline rupture was (1) external corrosion of the pipe wall due to deteriorated coating and ineffective cathodic protection and (2) the failure to detect the corrosion because the pipeline was not inspected or tested after 1988.

While PHMSA published an NPRM in April 2016 proposing an alternate approach by creating a "moderate consequence area (MCA)" that included a highway-size threshold. We disagreed with this proposal because it limited highway coverage to only four-lane configurations, which would exclude principal arterial roadways wider than four lanes. Although wider divided highways most likely coincide with the existing HCA criteria, we are concerned that some wider highways may not. While PHMSA has stated they are considering revising the definition, no formal action has been completed.

P-17-2 recommended PHMSA require operators to either (a) repair all excavated dent defects, or (b) install a local leak detection system at each location where a dent is not repaired, continuously monitor for hydrocarbons, and promptly take corrective action to stop a detected leak.<sup>20</sup>

This recommendation was issued following the NTSB's investigation into a release of the 2015 Colonial Pipeline release of about 4,000 gallons of gasoline in an HCA near Centreville, Virginia. As stated earlier, the leak was not identified by the pipe-

<sup>18</sup> National Transportation Safety Board, Safety Recommendation P-12-003.

<sup>19</sup> National Transportation Safety Board, Safety Recommendation P-14-001.

<sup>20</sup> National Transportation Safety Board, Safety Recommendation P-17-002.

line operator, Colonial Pipeline Company, for two days after initial report of gasoline odor. The Board determined the probable cause of the release of gasoline from the pipeline was a through-wall corrosion fatigue crack that developed at a dent in the pipeline due to residual and operational stress and exposure to the underground environment. Contributing to the accident were PHMSA regulations that allowed the dent to remain in the pipeline.

PHMSA regulations do not specifically require dents having depths less than six percent of the pipeline diameter to be repaired unless there is an indication of metal loss, cracking, or a stress riser, or unless the dent affects pipe curvature at a girth weld or a longitudinal seam weld. The dent at the leak location was about 1.6 percent of the outer pipe diameter and the upstream dent was 1.57 percent of the outer pipe diameter. Colonial did not repair either dent because they did not meet PHMSA's repair criteria. During the investigation, Colonial reported to the NTSB that pipelines in Pelham, Alabama, Felixville, Louisiana, and Simpsonville, South Carolina also developed through wall-cracks in dented pipe. The depths of these dents were less than two percent of the pipe outer diameter.

The NTSB recommended that PHMSA require operators to either (a) repair all excavated dent defects, or (b) install a local leak detection system at each location where a dent is not repaired, continuously monitor for hydrocarbons, and promptly take corrective action to stop a detected leak. The recommendation remains "Open—Unacceptable Response."

PHMSA has communicated that compliance with current regulations, improved operator guidance, focused inspections, and an advisory bulletin would address the safety risks of dent defects and would be more cost- and safety-efficient than requiring leak-detection systems. However, existing regulations, guidance, and bulletins are inadequate. Pipeline operators should be required to act on all excavated dent defects, but PHMSA proposed wording gives pipeline operators a choice about whether and how to act on defects. Installing a leak-detection system at each location where a dent is not repaired should be the pipeline operators' only alternative when not repairing an excavated dent defect.

#### CONCLUSION

Over the last 52 years, our investigations have found that safe operation of pipelines is a shared responsibility among operators, government oversight agencies, and local communities.

Pipelines remain one of the safest and most efficient means of transporting vital commodities used to power homes, businesses, and vehicles in all modes of transportation. However, the consequences are tragic when there is insufficient safety planning and oversight. To that end, the NTSB urges expeditious implementation of all unimplemented safety recommendations issued to operators and government agencies—especially PHMSA.

We recognize the progress that has been made; yet, there will always be room for improvement. The NTSB stands ready to work with the Subcommittee to continue improving the safety of our nation's pipeline systems.

Thank you again for the opportunity to testify today. I am happy to answer your questions.

#### APPENDIX TO NTSB BOARD MEMBER HOMENDY'S TESTIMONY CONCERNING PIPELINE SAFETY

##### CURRENT INVESTIGATIONS

##### *Silver Spring, Maryland*

On August 10, 2016, a Washington Gas natural gas pipeline ruptured, exploded, and destroyed a four-story apartment building in Silver Spring, Maryland, resulting in seven fatalities and injuries to 65 civilians and three emergency responders. Our investigation is ongoing and is looking into operations, survival factors, and regulatory oversight. The Board is scheduled to meet on April 23 to determine the probable cause of the rupture and explosion and issue any recommendations we believe will improve safety and prevent future tragedies, fatalities, and injuries.

##### *Tekamah, Nebraska*

On October 17, 2016, a Magellan pipeline ruptured and released 7,000 barrels of anhydrous ammonia, resulting in one fatality and evacuation of the area.

*Helena, Alabama*

On October 31, 2016, a Colonial Pipeline gas pipeline ruptured and caused a fire after being struck by a track hoe during maintenance operations, resulting in one fatality and four injuries.

*Firestone, Colorado*

On April 17, 2017, a house exploded, resulting in two fatalities and two injuries. The uncapped end of an abandoned but still connected flow line from a natural gas well owned and operated by Anadarko Petroleum Company was discovered near the home's foundation.

*Minneapolis, Minnesota*

On August 2, 2017, a building at the Minnehaha Academy North Campus was destroyed by a natural gas explosion, resulting in two fatalities and nine injuries. At the time of the explosion, two workers were installing new piping to support the relocation of gas meters from the basement of the building to the outside. Two new meters mounted on a wall were ready for the new piping to be connected. While workers were removing the existing piping, a full-flow natural gas line at pressure was opened. The workers were unable to mitigate the release of the gas and evacuated the area.

A school maintenance worker heard and smelled the natural gas release and went to its source in the basement meter room where the workers had been. As he exited the basement, he made an announcement over his hand-held radio that there was gas in the building and to evacuate immediately. As he made his radio announcement, he ran up the stairs and searched for occupants. Less than one minute later, the building exploded.

*Dallas, Texas*

On February 23, 2018, a house exploded, resulting in the death of a 12-year-old juvenile and injuries to four family members, all of whom were asleep at the time of the explosion. In the 48 hours prior to the explosion, work crews from Atmos Energy were in the neighborhood investigating gas-related fires and two residences. More than 300 residences were subsequently evacuated due to the nature and number of natural gas pipeline leaks discovered in the residential neighborhood.

*Merrimack Valley, Massachusetts*

On September 13, 2018, a series of explosions and fires occurred throughout the northeast region of the Merrimack Valley after high-pressure natural gas was released into a low-pressure distribution system, resulting in one fatality and injuring at least 21 individuals, including two firefighters. Seven other firefighters received minor injuries. The distribution system was owned and operated by Columbia Gas of Massachusetts, a subsidiary of NiSource, Inc. The system overpressure damaged 131 structures, including at least five homes that were destroyed in the city of Lawrence and the towns of Andover and North Andover. Most of the damage was a result of structure fires ignited by gas-fueled appliances.

*San Francisco, California*

On February 6, a Pacific Gas & Electric Corporation (PG&E) natural gas pipeline ruptured and caused a fire after being struck by a third-party contractor's excavation equipment, while installing fiberoptic conduit. Fortunately, there were no injuries or fatalities; however, the natural gas service to 328 customers was curtailed temporarily, and about 100 people were evacuated. The NTSB's investigative activity is focused on the third-party contractor's preparedness and qualifications to perform the excavation work and the execution of PG&E and local fire and police department emergency response plans. Investigators are also reviewing and assessing applicable rules and standards of oversight agencies for effectiveness.

All of these investigations are ongoing, and the NTSB has not determined the probable causes, issued findings, or drawn any conclusions.

### Open Pipeline Recommendations (as of March 26th, 2019)

Number	Date Issued	Overall Status	Most Wanted List	Safety Recommendation
P-10-004	1/31/11	Open-Acceptable Response	X	TO THE PACIFIC GAS AND ELECTRIC COMPANY: If you are unable to comply with Safety Recommendations P-10-2 (Urgent) and P-10-3 (Urgent) to accurately determine the maximum allowable operating pressure of Pacific Gas and Electric Company natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas that have not had a maximum allowable operating pressure established through prior hydrostatic testing, determine the maximum allowable operating pressure with a spike test followed by a hydrostatic pressure test.
P-10-006	1/31/11	Open-Acceptable Response	X	TO THE CALIFORNIA PUBLIC UTILITIES COMMISSION: If such a document and records search cannot be satisfactorily completed, provide oversight to any spike and hydrostatic tests that Pacific Gas and Electric Company is required to perform according to Safety Recommendation (P-10-4).
P-11-009	9/26/11	Open-Acceptable Response		To PHMSA: Require operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines to ensure that their control room operators immediately and directly notify the 911 emergency call center(s) for the communities and jurisdictions in which those pipelines are located when a possible rupture of any pipeline is indicated.
P-11-010	9/26/11	Open-Acceptable Response	X	To PHMSA: Require that all operators of natural gas transmission and distribution pipelines equip their supervisory control and data acquisition systems with tools to assist in recognizing and pinpointing the location of leaks, including line breaks; such tools could include a real-time leak detection system and appropriately spaced flow and pressure transmitters along covered transmission lines.
P-11-011	9/26/11	Open-Acceptable Response	X	To PHMSA: Amend Title 49 Code of Federal Regulations 192.935(c) to directly require that automatic shutoff valves or remote control valves in high consequence areas and in class 3 and 4 locations be installed and spaced at intervals that consider the factors listed in that regulation.
P-11-014	9/26/11	Open-Acceptable Response	X	To PHMSA: Amend Title 49 Code of Federal Regulations 192.619 to delete the grandfather clause and require that all gas transmission pipelines constructed before 1970 be subjected to a hydrostatic pressure test that incorporates a spike test.
P-11-015	9/26/11	Open-Acceptable Response	X	To PHMSA: Amend Title 49 Code of Federal Regulations Part 192 of the Federal pipeline safety regulations so that manufacturing- and construction-related defects can only be considered stable if a gas pipeline has been subjected to a postconstruction hydrostatic pressure test of at least 1.25 times the maximum allowable operating pressure.
P-11-023	9/26/11	Open-Acceptable Response	X	TO THE CALIFORNIA PUBLIC UTILITIES COMMISSION: Require the Pacific Gas and Electric Company to correct all deficiencies identified as a result of the San Bruno, California, accident investigation, as well as any additional deficiencies identified through the comprehensive audit recommended in Safety Recommendation P-11-22, and verify that all corrective actions are completed.

**Open Pipeline Recommendations (as of March 26th, 2019)—Continued**

Number	Date Issued	Overall Status	Most Wanted List	Safety Recommendation
P-12-003	7/25/12	Open-Unacceptable Response	X	To PHMSA: Revise Title 49 Code of Federal Regulations 195.452 to clearly state (1) when an engineering assessment of crack defects, including environmentally assisted cracks, must be performed; (2) the acceptable methods for performing these engineering assessments, including the assessment of cracks coinciding with corrosion with a safety factor that considers the uncertainties associated with sizing of crack defects; (3) criteria for determining when a probable crack defect in a pipeline segment must be excavated and time limits for completing those excavations; (4) pressure restriction limits for crack defects that are not excavated by the required date; and (5) acceptable methods for determining crack growth for any cracks allowed to remain in the pipe, including growth caused by fatigue, corrosion fatigue, or stress corrosion cracking as applicable.
P-12-004	7/25/12	Open-Acceptable Response	X	To PHMSA: Revise Title 49 Code of Federal Regulations 195.452(h)(2), the “discovery of condition,” to require, in cases where a determination about pipeline threats has not been obtained within 180 days following the date of inspection, that pipeline operators notify the Pipeline and Hazardous Materials Safety Administration and provide an expected date when adequate information will become available.
P-14-001	3/5/14	Open-Unacceptable Response	X	To PHMSA: Revise Title 49 Code of Federal Regulations Section 903, Subpart O, Gas Transmission Pipeline Integrity Management, to add principal arterial roadways including interstates, other freeways and expressways, and other principal arterial roadways as defined in the Federal Highway Administration’s Highway Functional Classification Concepts, Criteria and Procedures to the list of “identified sites” that establish a high consequence area.
P-15-004	2/10/15	Open-Acceptable Response	X	To PHMSA: Increase the positional accuracy of pipeline centerlines and pipeline attribute details relevant to safety in the National Pipeline Mapping System.
P-15-005	2/10/15	Open-Acceptable Response	X	To PHMSA: Revise the submission requirement to include high consequence area identification as an attribute data element to the National Pipeline Mapping System.
P-15-010	2/10/15	Open-Acceptable Response	X	To PHMSA: Update guidance for gas transmission pipeline operators and inspectors on the evaluation of interactive threats. This guidance should list all threat interactions that must be evaluated and acceptable methods to be used.
P-15-011	2/10/15	Open-Acceptable Response	X	To PHMSA: Develop and implement specific risk assessment training for inspectors in verifying the technical validity of risk assessments that operators use.
P-15-012	2/10/15	Open-Acceptable Response		To PHMSA: Evaluate the safety benefits of the four risk assessment approaches currently allowed by the gas integrity management regulations; determine whether they produce a comparable safety benefit; and disseminate the results of your evaluation to the pipeline industry, inspectors, and the public.

**Open Pipeline Recommendations (as of March 26th, 2019)—Continued**

Number	Date Issued	Overall Status	Most Wanted List	Safety Recommendation
P-15-013	2/10/15	Open-Acceptable Response	X	To PHMSA: Update guidance for gas transmission pipeline operators and inspectors on critical components of risk assessment approaches. Include (1) methods for setting weighting factors, (2) factors that should be included in consequence of failure calculations, and (3) appropriate risk metrics and methods for aggregating risk along a pipeline.
P-15-015	2/10/15	Open-Acceptable Alternate Response		To PHMSA: Revise Form F7100.1, Annual Report Form, to collect information about which methods of high consequence area identification and risk assessment approaches were used.
P-15-016	2/10/15	Open-Acceptable Response		To PHMSA: Revise Form F7100.2, Incident Report Form, (1) to collect information about both the results of previous assessments and previously identified threats for each pipeline segment involved in an incident and (2) to allow for the inclusion of multiple root causes when multiple threats interacted.
P-15-017	2/10/15	Open-Acceptable Response	X	To PHMSA: Develop a program to use the data collected in response to Safety Recommendations P-15-15 and P-15-16 to evaluate the relationship between incident occurrences and (1) inappropriate elimination of threats, (2) interactive threats, and (3) risk assessment approaches used by the gas transmission pipeline operators. Disseminate the results of your evaluation to the pipeline industry, inspectors, and the public annually.
P-15-018	2/10/15	Open-Acceptable Response	X	To PHMSA: Require that all natural gas transmission pipelines be capable of being in-line inspected by either re-configuring the pipeline to accommodate in line inspection tools or by the use of new technology that permits the inspection of previously uninspectable pipelines; priority should be given to the highest risk transmission pipelines that considers age, internal pressure, pipe diameter, and class location. (Safety Recommendation P-15-18 superseded Safety Recommendation P-11-17)
P-15-020	2/10/15	Open-Acceptable Response	X	To PHMSA: Identify all operational complications that limit the use of in-line inspection tools in piggable pipelines, develop methods to eliminate the operational complications, and require operators to use these methods to increase the use of in-line inspection tools.
P-15-021	2/10/15	Open-Acceptable Response	X	To PHMSA: Develop and implement a plan for eliminating the use of direct assessment as the sole integrity assessment method for gas transmission pipelines.
P-15-022	2/10/15	Open-Acceptable Response	X	To PHMSA: Develop and implement a plan for all segments of the pipeline industry to improve data integration for integrity management through the use of geographic information systems.
P-15-034	6/29/15	Open-Acceptable Response	X	TO CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.: Revise your plastic pipe fusion welding procedure to require cleaning of the surfaces to be welded with suitable solvents to remove all dirt, water, oil, paint, and other contaminants as recommended in ASTM F2620, Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings.



**Open Pipeline Recommendations (as of March 26th, 2019)—Continued**

Number	Date Issued	Overall Status	Most Wanted List	Safety Recommendation
P-17-001	6/15/17	Open-Acceptable Response	X	To PHMSA: Work with pipeline trade and standards organizations to modify the pipeline dent acceptance criteria to account for all the factors that lead to pipe failures caused by dents, and promulgate regulations to require the new criteria be incorporated into integrity management programs.
P-17-002	6/15/17	Open-Unacceptable Response	X	To PHMSA: Require operators to either (a) repair all excavated dent defects, or (b) install a local leak detection system at each location where a dent is not repaired, continuously monitor for hydrocarbons, and promptly take corrective action to stop a detected leak.
P-17-003	6/15/17	Open-Await Response	X	TO THE COLONIAL PIPELINE COMPANY: Revise the dent excavation evaluation procedure to require either (a) the repair of all excavated dent defects, or (b) the installation of a local leak detection system at each location where a dent is not repaired, continuous monitoring for hydrocarbons, and prompt corrective action to stop a detected leak.
P-17-004	6/15/17	Open-Response Received		TO THE ASSOCIATION OF OIL PIPE LINES AND THE AMERICAN PETROLEUM INSTITUTE: Communicate to your members the findings of this report on the susceptibility of dents to fatigue cracking even when the dent is acceptable under current criteria.
P-18-001	6/25/18	Open-Acceptable Response	X	To PHMSA: Work with state pipeline regulators to incorporate into their inspection programs, a review to ensure that gas distribution pipeline operators are using best practices recommended by the manufacturer in their distribution integrity management programs, including using the specified tools and methods, to correctly install PermaLock mechanical tapping tee assemblies.
P-18-004	6/25/18	Open-Acceptable Alternate Response	X	TO HONEYWELL: Specify in your PermaLock mechanical tapping tee assembly installation instructions a not-to-exceed torque limit for Nylon bolts and have that value checked and adjusted with a torque wrench immediately after installation.
P-18-005	11/15/18	Open-Await Response	X	TO THE COMMONWEALTH OF MASSACHUSETTS: Eliminate the professional engineer licensure exemption for public utility work and require a professional engineer's seal on public utility engineering drawings.
P-18-006	11/15/18	Open-Acceptable Response	X	TO NISOURCE: Revise the engineering plan and constructability review process across all of your subsidiaries to ensure that all applicable departments review construction documents for accuracy, completeness, and correctness, and that the documents or plans be sealed by a professional engineer prior to commencing work. (Urgent)
P-18-007	11/15/18	Open-Acceptable Response	X	TO NISOURCE: Review and ensure that all records and documentation of your natural gas systems are traceable, reliable, and complete. (Urgent)
P-18-008	11/15/18	Open-Acceptable Response	X	TO NISOURCE: Apply management of change process to all changes to adequately identify system threats that could result in a common mode failure. (Urgent)

**Open Pipeline Recommendations (as of March 26th, 2019)—Continued**

Number	Date Issued	Overall Status	Most Wanted List	Safety Recommendation
P-18-009	11/15/18	Open-Acceptable Response	X	TO NISOURCE: Develop and implement control procedures during modifications to gas mains to mitigate the risks identified during management of change operations. Gas main pressures should be continually monitored during these modifications and assets should be placed at critical locations to immediately shut down the system if abnormal operations are detected. (Urgent)

Mr. LIPINSKI. Thank you for your testimony.

I will start by recognizing myself for 5 minutes for questions. I will start out with Administrator Elliott.

You know, 8 years have now lapsed since Congress passed the 2011 pipeline safety bill, and PHMSA still has not implemented required regulations like the hazardous liquid rule or gas transmission rule. I think we could all agree that taking 8-plus years to implement important safety regulations is a problem.

I want to ask first, how is PHMSA reforming its regulatory process so that congressional mandates are implemented faster?

Mr. ELLIOTT. Chairman Lipinski, thank you for that question.

I think we have done quite a bit since I last testified before this committee last June and heard quite clearly the dissatisfaction with the ability of PHMSA to move mandates, and we have done several things.

First of all, we have really gone back and worked hard internally to make sure that we could complete developing the language for the rules that were still open.

And I think the second thing that we have done is we have worked hard to streamline the rulemaking process at PHMSA. As you know, PHMSA is really two separate modes almost, one on pipeline and one on hazardous materials. And we found that there were some inefficiencies there that were not giving us the ability to staff our rulemaking process the way that would provide optimum results. And we have worked on that, so I think today we have a much better process internally for writing and pursuing not only mandates but all regulations that we are responsible for.

I tell the team at PHMSA just about every day that we are responsible for making sure that the mandates that we have in front of us, that we can move as quickly and expeditiously as we can.

I am pleased that we have been able to complete our work on the pipeline safety rule. We have completed our work on the gas pipeline safety rule as well. And we are hoping that those will become published in the not too distant future.

Mr. LIPINSKI. What can Congress do to help PHMSA speed up the implementation of regulations?

Mr. ELLIOTT. Mr. Chairman, I think just your constant assistance in helping us understand the absolute urgency in moving these safety rules to conclusion.

Mr. LIPINSKI. I want to ask, Ms. Homendy, what you would recommend. Do you have any comments on what PHMSA has done

and what you would recommend that PHMSA or Congress do to speed up the regulations?

Ms. HOMENDY. Well, there is a lot that goes into rulemaking, and I have had a lot of great conversations with the Administrator and with PHMSA staff over the past several months and years, and it is frustrating.

Part of the problem is there is no transparency in the rule-making process. So we actually—we do have letters that go back and forth and communications between—and meetings as well—between NTSB and PHMSA, and a lot of the time the response is, “Well, we are going to work on these recommendations and rule-making,” but we actually don’t know where the rulemaking is. Is it in PHMSA? Is it in the Secretary’s office? Is it at OMB? So that is part of the problem, that we don’t know where the holdup is.

But, you know, from our standpoint, you know, a lot of the NTSB recommendations that were included in the 2011 and 2016 acts are not new recommendations. We have issued them for a number of years, and there was no action. Fortunately, you took action, and it is frustrating that now we don’t have final rulemakings.

And what concerns me most is having to go to an accident scene and meet with a loved one who has lost a family member and have to explain to them, you know, what we know about the accident and what the NTSB’s process is while our investigators know full well that something could have prevented that accident had it been implemented.

Mr. LIPINSKI. Thank you.

I want to ask Mr. Elliott, do you intend to implement all of NTSB’s safety recommendations?

Mr. ELLIOTT. Mr. Chairman, we have currently 20 open NTSB recommendations. Ten of those are linked to rulemakings that we are working through, and as has been alluded to earlier, three of those are open and unacceptable.

I would reiterate Member Homendy’s comments. I think we have a very strong working relationship with NTSB. Our staffs work regularly to help work through those recommendations and to find resolutions as quickly as possible. And at least at my time at PHMSA, I think we have made some significant strides not only in working more closely with the National Transportation Safety Board but in bringing some of those recommendations to successful conclusions.

Mr. LIPINSKI. Ms. Homendy, did you want to add anything else before I close?

Ms. HOMENDY. I would just clarify that we have 24 open safety recommendations.

And one thing that a lot of people do not know is that when we issue a safety recommendation there may be another way that PHMSA or the industry would like to address it and believe that they could address the safety issue identified, and they can propose an alternative. There have been recommendations that we have issued to PHMSA where they did provide an acceptable alternative and we were able to close that recommendation.

So we are eager to work with them. They sent us a letter yesterday to clarify where they were on the various recommendations, and we look forward to continuing the discussion.

Mr. LIPINSKI. Thank you. My time has expired.

I want to recognize Ranking Member Crawford for 5 minutes.

Mr. CRAWFORD. Thank you, Mr. Chairman.

I just have one quick question for Administrator Elliott. How can the rulemaking process be improved to ensure that safety regulations are keeping up with technological advances?

Mr. ELLIOTT. Congressman, thank you for the question.

I think that, you know, one of the criticisms that PHMSA often gets is the inability for our rulemaking process to stay current with trends in innovation and technology, especially those where there is emerging safety technology.

We work hard to try and ensure through our special permitting process that we can bring a lot of this new, exploratory safety technology so that it can be tested and we can see whether or not it can actually be included into the process within the regulations.

I do think there are probably some additional ways that we can look to include emerging technology, especially safety technology and innovation, and we continue to explore those ways to do that.

Mr. CRAWFORD. Thank you, Mr. Elliott.

Ms. Homendy, I want to ask a question about two of the Members that presented testimony earlier today. What is the status of the four urgent NTSB recommendations issued to NiSource in the wake of the Merrimack Valley incident?

Ms. HOMENDY. That we issued for NiSource or for the Commonwealth of Massachusetts? I am sorry.

Mr. CRAWFORD. NiSource.

Ms. HOMENDY. For NiSource, they are continuing to implement our urgent recommendations, and we have communications from the company updating us on the status.

Mr. CRAWFORD. OK.

When the NTSB develops safety recommendations, is there consideration for who might ultimately bear the cost to implement that recommendation?

Ms. HOMENDY. We do not consider cost. The NTSB's mission is safety. The regulator's role is to consider cost-benefit analysis when they are issuing regulations. But when it comes to the NTSB, our mission is safety and preventing future tragedies and saving lives.

Mr. CRAWFORD. Thank you, ma'am. Appreciate it.

I yield back.

Mr. LIPINSKI. I now recognize Chairman DeFazio for 5 minutes.

Mr. DEFazio. Thanks, Mr. Chairman.

Specifically, where are we on the leak detection rule, Mr. Administrator?

Mr. ELLIOTT. Chairman DeFazio, thank you for that question.

I have made comment on our progress on the liquid and gas rule and the leak detection and automatic valve rule. We have completed our work with that, and it is currently undergoing internal review at DOT. We think we have adequately prepared the notice of proposed rulemaking, and we hope that we can publish that notice of proposed rulemaking in the near future.

We recognize the importance of that rule. I think we realize that, while the liquid safety rule and the gas safety rule accommodate some of the concerns, that it really is the leak detection and the valve rule is the one that we really need to pursue now.

So, again, we have done our work on it and need to get the notice of proposed rulemaking out so we can then pursue that to a final rule.

Mr. DEFAZIO. So you have written an NPRM, a notice of proposed rulemaking, and submitted it to DOT. To whom?

Mr. ELLIOTT. Well, it goes through, you know, quite an iteration within DOT. There are a number of departments within the DOT that review all of our rulemaking. And that is the process that it is going through now.

Mr. DEFAZIO. But I thought the theory when Congress created PHMSA—which used to be in DOT proper within the Secretary’s office—that the idea was that you would have specific jurisdiction and a very particular body of knowledge. Who at DOT is more qualified than people at PHMSA to determine your NPRM?

Mr. ELLIOTT. Well, I would, Mr. Chairman, agree that there is a great amount of skill and talent at PHMSA when it comes to the pipeline rulemaking. But the process affords for others within the Department to look at that rulemaking from their lenses and their points of views to make sure that it conforms with their interests.

Mr. DEFAZIO. “Their interests.” What are their interests? Are their interests in moving forward quickly with this critical rule? Are their interests in delaying the rule so that expenses won’t be put upon the industry, and more people might die? What are their interests?

Mr. ELLIOTT. Yeah, well, Mr. Chairman, I think their interests are the same as mine, and that is safety. And I don’t think there is any significant delay in moving this particular bill forward. I think it is just going through its normal review process.

Mr. DEFAZIO. Well it is quite a number of years in the making. It is a proposed rulemaking, which means it still has to go out for public comment.

Maybe the people at DOT could comment after you. It seems like an extra step here to me. The experts write the notice of proposed rulemaking; then people who don’t have the expertise are reviewing that rule.

And how long has it been there?

Mr. ELLIOTT. Well, I mean, it has been with PHMSA for many years.

Mr. DEFAZIO. No, how long has it been over at DOT? How long since you completed it?

Mr. ELLIOTT. It has probably been within the last 90 days.

Mr. DEFAZIO. OK. When might we expect it out of there? Do they work under timelines, or do things just disappear over there and they come back when they come back?

Mr. ELLIOTT. Mr. Chairman, I can’t answer that question specifically, but I can assure you that I have regular dialogue with the staff at the Department on the importance of moving these mandates and will continue to pursue that.

Mr. DEFAZIO. OK.

One other question. What is the current value of a human life?

Mr. ELLIOTT. You can’t put a value on human life.

Mr. DEFAZIO. Well, I remember years ago hearing testimony when I was trying to get over-wing exit seats removed, and the reg-

ulator actually had a very specific number that they put on the value of a human life to determine cost-benefit analysis.

I am just curious, do you have such a rule as you do cost-benefit analysis?

Mr. ELLIOTT. Well, Mr. Chairman, as you know, we are required to do the cost-benefit analysis, but, again, going back to your original question, you can't put a cost value on someone's life.

And at PHMSA, each and every day, we focus on ensuring the safety of energy products that move in the U.S. pipeline network. We don't focus on anything else but trying to make the Nation's pipeline system as safe as humanly possible.

Mr. DEFAZIO. But, at some point, you do apply some sort of analysis. So you say, this 30-inch pipeline, in order to put in leak detection, it is going to cost this much. What is the benefit side? How do you calculate the benefit?

Mr. ELLIOTT. Well, again, Mr. Chairman, I mean, all rules go through a cost-benefit analysis—

Mr. DEFAZIO. Yeah, but I am just curious, what is the benefit? Do we look at past explosions, like San Bruno, and how much that cost, and then therefore that might be the leak detection benefit? How do we calculate that?

Mr. ELLIOTT. Well, I am not sure of the specifics of the calculation, and I am pleased to work with you to provide more detailed information on it.

Mr. DEFAZIO. Yeah.

Ms. Homendy—Mr. Chairman, if you would just indulge—do you have any idea how that is done, given your past work on the committee and expertise?

Ms. HOMENDY. The last time I looked—and I agree with the Administrator, you can't put a value on life. But the DOT uses \$9 million per life, is the last time I looked at the figures that they utilized.

On the benefit side, I do believe they look at the accidents that occurred, and they put a savings value on that. I am not sure how they develop it.

Mr. DEFAZIO. OK. All right.

I would like a little more information, Mr. Administrator. That would be useful.

Thank you, Mr. Chairman.

Mr. LIPINSKI. Thank you.

The Chair will now recognize Mr. Bost for 5 minutes.

Mr. BOST. Thank you, Mr. Chairman.

Mr. Elliott, in terms of the pipeline security, a lot of attention has been focused on potential large-scale terrorist attacks on pipeline infrastructure. However, we also have noticed an uptick in small-scale attacks, predominantly intended to disrupt but not to totally destroy critical infrastructure. You know, this includes pipelines, utility transmission lines, fiberoptic cable, just to name a few.

But, in your opinion, are current laws sufficient to deter actions that may disrupt pipeline operations?

And a followup to that: What are some of the potential safety issues of seemingly minor acts that we see when vandalism occurs?

Mr. ELLIOTT. Congressman, thank you for that question.

PHMSA is primarily, as you know, a safety organization, but it is almost impossible in this day and age to separate safety from security. A safe operation is a secure operation, and, conversely, a secure pipeline system is one that is safe.

We work very closely with the primary pipeline security organization, the Transportation Security Administration as well, more so on cyber-related issues with the Department of Energy. I do think that the coordination that we have with those primary security agencies is good. We help provide some technical experience to them about the Nation's pipeline system, and they, in turn, help us better understand the current threats both to physical and cybersecurity.

I do believe that there is a concern, especially with what our inspectors see on a day-to-day basis, of the potential impacts of attempts of vandalism of pipeline systems. There was one a few months ago, fortunately unsuccessful. And I do know that our inspectors, on their regular inspection opportunities, they talk regularly to the pipeline operators about the steps that they have in place to help mitigate any security concerns.

Mr. BOST. So, then, if someone commits one of these acts—I mean, I know if it is a terrorist act and there is a lot of damage and everything like that. But what do we do and what kind of charges do we get to put on people to discourage it from happening in the future?

Because I think sometimes there are certain groups and organizations that would prefer to do these things just to bring attention. Even though we are trying to be as safe as possible, they know if they mess it up that we will have problems as well.

Mr. ELLIOTT. Right. Well, instances such as that, the operators will normally provide that data to local law enforcement authorities and even the FBI.

And, recently, we have had inquiries with regards to whether or not we believe that the penalties that exist for, not so much kind of the terrorist types of attacks, but more the negative impacts to the pipeline system from demonstrators should be made more severe, and we have provided opinion on that.

Mr. BOST. OK. Thank you.

So what challenges is the PHMSA facing in collecting data to assess with the safety improvements and rulemaking?

Mr. ELLIOTT. Congressman, I think, actually, that the information and the data that we collect from operators to help us improve safety is adequate. I think the information that we get through the collection of information through their integrity management systems, I think the information that we receive through work that they do with some of their sophisticated in-line inspection helps us to formulate several things. It helps us to formulate the need for additional clarifications or rulemakings, but I think it also helps us better inform our inspectors. And it also informs us to focus on areas of greatest concern when we go out and inspect the regulated pipeline entity.

Mr. BOST. So just one more question, because the concern I have—so when it takes this long to go through the rulemaking process, with technology changing as fast as it does, how in the world will we be able to keep up with modifying our rules and

changing the rules to keep up with the technology that actually makes it safe?

Mr. ELLIOTT. Right. Congressman, that is a valid concern, and it is one that we hear quite often from industry. Because, as we all know, the pace at which technology is improving is at a pretty rapid pace, and some of the safety technology and innovation is actually quite impressive.

Today, our current vehicle for allowing that technology to come into play, typically, not as part of a regulation, is through some special permit processes that we have. At PHMSA, we are working hard to make sure that we minimize that amount of time, but we are also looking at the possibility of introducing some types of pilot projects that will also allow some of this new safety technology to come into play more quickly.

The concern that we have is that at PHMSA we need to be absolutely sure that the technology works and will provide this kind of step change in safety. And in order to do that, we need to see it in actual application for a fair amount of time. But we are looking at ways to see how we can expedite that so that we can get the information we need then to allow it in general use.

Mr. BOST. Thank you very much.

And, Mr. Chairman, I yield back.

Mr. LIPINSKI. I now recognize Mrs. Craig for 5 minutes.

Mrs. CRAIG. Thank you, Mr. Chairman.

On August 2, 2017, a building at the Minnehaha Academy in Minneapolis, Minnesota, was destroyed by a natural gas explosion. As a result, two Minnesotans were killed and nine were injured. Unfortunately, we still don't have much information about this event.

Ms. Homendy, I understand the NTSB's investigation is ongoing, but can you provide any information about the Board's processes and when we may be able to learn more about this fatal incident?

Ms. HOMENDY. Thank you for the question.

We are in the process of preparing our brief, which is our final report, and that should be out by the end of this fiscal year.

Shortly before that, we will open the public docket to provide some information about the investigation that we have obtained. That then becomes publicly available. At that time, I am happy to come in and brief you and your staff to talk about what that information is.

I did talk with our Office of Railroad, Pipeline, and Hazardous Materials Investigations to see what types of issues the investigators are looking at. And four groups were formed as part of the investigation to look at pipeline operations, human performance, survival factors, and the emergency response to the pipeline accident. In addition to that, materials; looking at testing of the pipeline; and investigators are also looking at subcontractor oversight and worker qualifications.

As our process moves forward, we are happy to come in and brief you.

Mrs. CRAIG. Thank you so much.

Just following up on that, the NTSB has long recommended that the Department of Transportation, PHMSA, and PHMSA's predecessor examine the need for leak detection on pipelines and issue



a regulation on this topic. Can you talk a little bit more about why this is important?

Ms. HOMENDY. Leak detection is about response time. If you have a leak that you don't discover for a substantial amount of time, you are going to end up with more damage, lives lost, people injured, and communities severely affected.

If I look at some of the most recent incidents where we have investigated, you have PG&E, this latest one in San Francisco that I was at, 2 hours to shut down the pipeline, and 95 minutes, 2 hours and 45 minutes at a previous one, and 9 hours before that.

And the one we conducted in Centreville, the pipeline operator didn't detect a leak for 2 full days and kept telling the emergency responders there wasn't a problem on the pipeline. We need to detect leaks not only so that the operator can immediately respond but that so emergency responders can respond.

And it is not just—you know, PHMSA does have performance standards that they issue in their regulations. But it is not just that these operators need to use leak detection systems—and it is not just one; it may be many—but they also have to have performance standards, PHMSA has to issue performance standards for leak detection.

For example, Alaska requires that all crude oil pipelines be equipped with a leak detection system capable of promptly detecting a leak of no more than 1 percent of daily throughput. That is a performance standard that doesn't exist in PHMSA regulations right now.

And beyond just the leak detection systems themselves and the performance standards, you have to have proper training for personnel, good corporate policy, sort of a safety management system so you make sure everyone is properly trained and addresses the problem.

Mrs. CRAIG. Just following up to that, Mr. Elliott, can you tell us what prevents you from having those performance standards in place?

Mr. ELLIOTT. Congresswoman, thank you for the question.

You know, a number of the items that you made specific reference to on leak detection, again, are included in the mandates that we are working to complete—the liquid rule as well as the rupture detection and valve rule. We at PHMSA are working to complete those and hope to have those out as final rules in the very near future, and we think that will address many of the issues that you make reference to.

Mrs. CRAIG. Well, it can't come soon enough for families in my State.

Mr. ELLIOTT. I understand.

Mrs. CRAIG. Thank you. I yield back.

Mr. LIPINSKI. The Chair now recognizes Mr. Spano for 5 minutes.

Mr. SPANO. Thank you so much, Mr. Chairman.

Thank you for being here. Appreciate your testimony, Ms. Homendy, Mr. Elliott.

Mr. Elliott, I have a couple questions for you, if I may. Much of what we do in terms of making policy, much of what agencies do in terms of their rulemaking decisions involves kind of a balancing of cost and benefits and interests and so forth.

I understand you engage in such an analysis in terms of your rulemaking. Can you tell us about that process, give us some understanding, some detail to help us appreciate exactly what are the factors you look at and how you make a determination in terms of those costs and benefits?

Mr. ELLIOTT. Well, Congressman, thank you for the question.

All the rulemakings that we deal with will go through a cost-benefit, a regulatory impact analysis, looking at a lot of different factors—basically, the past history of incidents and impacts, matching that against the projected cost of the implementation of the rule.

I think it is important to identify that that is only one component of our rulemaking process. I mean, the cost-benefit analysis is something that we are required to do, but I really do think we focus more on the overall safety benefits that the rules will bring to the regulated community as well as the public.

We understand that, you know, most of the mandates that we deal with have costs associated with them, and we recognize that that cost is something that needs to be incurred so that we can bring these safety regulations into play.

Mr. SPANO. Thank you so much.

Of the various rulemakings currently in progress, how many NTSB recommendations will be addressed?

Mr. ELLIOTT. Well, as Member Homendy corrected me, we have 24 open NTSB recommendations, and of the 24, 10 of those recommendations will be addressed in rulemakings that we are currently working on.

Mr. SPANO. Ten of the twenty-four. Thank you.

And then one last question for you. What are the current policies in place at PHMSA to address rupture detection in pipelines?

Mr. ELLIOTT. So, again, rupture detection is a topic that has been brought up several times here today, Congressman, and it is one that is very important to us. And I want to underscore what Member Homendy said, because rupture detection and leak detection really basically go to the ability to detect a problem and resolve it before it turns into something serious.

But our rupture detection and automatic valve rule has, quite honestly, languished behind two rules that we put ahead of it, the liquid safety rule and the gas rule. And as has been mentioned before, we finished our work on the notice of proposed rulemaking. We do intend to get that out to the public for comment very quickly, and then we hope to expedite that to a final rule.

Mr. SPANO. So, just to clarify, are there any policies in place with regard to rupture protection currently?

Mr. ELLIOTT. Well, certainly within our integrity management requirements and existing Federal rules there are some that deal with rupture detection programs, yes.

Mr. SPANO. OK. Thank you.

I yield back.

Mr. LIPINSKI. The Chair now recognizes Mr. Lynch for 5 minutes.

Mr. LYNCH. Thank you, Mr. Chairman.

And I want to thank the witnesses as well.

Mr. Chairman, thank you, Chairman DeFazio as well, Ranking Member Graves, and Ranking Member Crawford. Pipeline safety is an incredibly important hearing.

And I want to associate myself with the remarks of Mrs. Trahan and Mr. Moulton, my colleagues from Massachusetts. And I certainly support their recommendations that we require licensed technicians and engineers on site and we have adequate supervisory staffing at all times—no waivers, no exceptions.

My own situation in my district—I have a couple of situations, one in West Roxbury, Massachusetts. It is part of the city of Boston. We have a transfer from a low-pressure line, natural gas line, to a high-pressure. I think it was 5 to 10 PSI before; now it is 50.

This is a thickly settled residential neighborhood. This particular gas pipeline, constructed by Spectra Energy, goes through a gravel quarry that is adjacent to this residential neighborhood. So they are side-by-side. And there is active blasting, there is active blasting going on in the quarry, next to the people's homes, kids, schools. Very densely settled residential neighborhood.

We tried mightily—the mayor, myself, elected officials—to get Spectra to move that pipeline out of the blasting zone and onto a major thoroughfare where it would not be proximate to residential homes. We went into court several times.

The whole legal process here of trying to raise local safety concerns in the context of the Natural Gas Act of 1938, that system is impervious to local concerns. We have been in the court, and we lose every time—lack of standing. We can't get into that process.

The second situation I have is Weymouth, Massachusetts, another heavily settled, thickly settled, densely settled residential area. And I have a compressor station that they want to build there. It is already an area that is heavily impacted by industrial use. There are a couple of tank farms, things like that, right on the coast, but the residential neighborhood is right there.

So how do we raise the safety concerns in the context of the Natural Gas Act of 1938? Because I have lost so many times in court already. I can't even get into the process. We get bounced out all the time.

And I am afraid that what has happened in Merrimack Valley is going to happen in one of my neighborhoods and we are going to have a massive loss of life because the area is much more concentrated with young children and residences.

So, Mr. Elliott, if you want to take a crack at that, how do I protect my neighbors?

Mr. ELLIOTT. Well, Congressman, thank you very much for the question.

And, you know, with regards to the compressor station at Weymouth, you may recall that approximately a month or so ago we had a conversation where—

Mr. LYNCH. Right.

Mr. ELLIOTT [continuing]. You have asked for assistance on helping to set up a public meeting that will bring perhaps more points of view to bear. And as I responded to you, we are happy to work with you on that public meeting. That certainly is one way for us to help better understand the circumstances that are ongoing up there.

You know, of the 2.7 million miles of pipeline that exist today in the United States, 80 percent of those are distribution pipeline systems such as you are talking about.

I do think we have an extremely good working relationship with our State partners. We continue to work to strengthen that. We continue to work to strengthen their ability to provide adequate oversight to State distribution networks——

Mr. LYNCH. That is fair enough. I don't want to use all my time on this, but I am not having the same experience with FERC, OK? And, you know, that is a major problem, because that is the adversarial relationship we have here in trying to impact this.

Ms. Homendy, would you like to take a crack at that, in terms of how we might raise the safety concerns of local neighborhoods?

Ms. HOMENDY. I think I would agree with the Administrator. Public meetings are probably the best way you are going to be able to have——

Mr. LYNCH. We have had those, though, with FERC, and, you know, they just blow us off and do what they are going to do anyway. That is the problem here. So I appreciate the recommendation that we have more meetings, but I have to get some stuff done.

Thank you. I yield back.

Mr. LIPINSKI. The Chair now recognizes Mr. Stauber for 5 minutes.

Mr. STAUBER. Thank you, Mr. Chair.

Administrator Elliott, a couple questions.

How often do pipelines generally need to be replaced?

Mr. ELLIOTT. Congressman, thank you for the question.

I don't think there is a specific number of years that you can apply to that question. Operators, through a very rigorous integrity management system, are responsible for ensuring the usable life of their systems.

And understand, as well, I think it is probably fair to say that there is quite a bit of difference when you talk about the different types of pipelines. Is it liquid? Is it gas? And is it transmission line, or is it a distribution system line?

And as we have been talking about for many years, many of the Nation's distribution lines, those that typically are still of cast iron or bare steel, provide some of the greatest concerns. We are happy that there are 21 States today that have basically done away with any old cast-iron distribution pipeline systems.

But we are continuing to try and find new ways to incentivize the replacement of some of these aged distribution lines. We have just introduced a bill that will allow for new plastic types of pipes that we hope will kind of accelerate the replacement of distribution pipelines.

But, again, going back to your basic question, it really is up to the individual operator to identify and maintain the absolute safety of their pipeline system.

Now, having said that, we have, for a long time, acknowledged the importance of replacing aged pipeline, and we certainly underscore and support those operators that have replacement plans.

Mr. STAUBER. And that leads to my next question. And do you think that pipelines need to be replaced once they start to corrode?

Mr. ELLIOTT. Again, I think there are a number of factors there, Congressman. I think as long as problems such as corrosion are detected early in the process and that an operator can go and resolve

that corrosion and do sufficient testing to ensure that the pipeline is not compromised, I think that pipeline can stay in service.

I might also add that I think this is an area where we are seeing some of the advancements in technology, especially in in-line inspection, that do a much better job of identifying early corrosion before it turns into a problem.

Mr. STAUBER. And I will say this. Enbridge line 3 runs through my district. The pipeline runs from Canada through my district in northern Minnesota to Superior, Wisconsin.

Enbridge is currently moving forward with a replacement plan that will make line 3 even safer than it is right now. And I am going to go over some safety measures that Enbridge takes on its current pipelines and its future replacement.

Do you think anticorrosion coatings are important for safety?

Mr. ELLIOTT. Yes, I do.

Mr. STAUBER. Do you think pressure testing is important for safety?

Mr. ELLIOTT. I think depending on the nature of the pipeline and how it is used as part of an integrity management system, it can be a useful tool, yes.

Mr. STAUBER. And do you think pipeline monitoring is important for safety?

Mr. ELLIOTT. Monitoring can take a number of different terms, but I think, again, as part of a company's integrity management system, they need to make sure that they are monitoring the absolute health of that pipeline in such a way that they understand the safety of the pipeline at all times.

Mr. STAUBER. And then do you think automatic shutoff valves are important for safety?

Mr. ELLIOTT. I do believe that automatic shutoff valves are important. And I would hope that, as soon as we can continue to move through with some of these mandates that we will afford appropriate application of automatic shutoff valves, that we will see an even safer pipeline system in this country.

Mr. STAUBER. Thank you.

And I agree with the important safety measures and steps that Enbridge has been taking to make sure their pipeline remains safe. And I also agree with you that pipelines need to be replaced from time to time. You know, we can't get wrapped up in political fights, whether they need to be replaced or not.

And, you know, this project's approval process with Enbridge replacement line 3 has been going on since 2014. They have all the necessary permits from North Dakota, and they have the unanimous approval from Minnesota's Public Utilities Commission. The only thing holding the project up is State-level politics.

And in the name of safety, I support this project and other important pipeline projects like this that are centered around safety.

Mr. Chair, I yield back.

Mr. LIPINSKI. The Chair will now recognize for 5 minutes Mr. Sires.

Mr. SIRES. Thank you, Mr. Chairman, for holding this hearing. And thank you for being here today.

You know, I have sat in on a number of these hearings regarding pipeline safety. And Directors come and Directors go, and they al-

ways say the same thing: We have to insist on a higher level of safety. We must complete outstanding congressional mandates.

Yet, from 1999 to 2018, nearly twofold increase in incidents, which demonstrates to me that there is some sort of a gap there, something is missing. How can we be insisting on all these safety factors and we still have increases and increases? What is the gap? What are we not doing?

And I am really concerned because I come from an area in New Jersey, I think there is a pipe underneath every brick. I mean, it is very congested. There are a lot of old pipes. I don't even think people know where some of these pipes go. And we are constantly having incidents where people keep breaking into the pipes and, you know, there is an incident.

So, Director, how did we get a twofold increase?

Mr. ELLIOTT. Well, Congressman, thank you for the question, and I absolutely appreciate your concern. And having spent many years working up in northern New Jersey, I understand your perspective with regards to pipeline.

First of all, you have my assurance that, at least in my time as the Administrator at PHMSA, that I will do everything possible to make sure that the men and women at PHMSA work hard every day to improve pipeline safety. There is much more we can do, and every day we discover new opportunities for safety that we really work to try and pursue.

I do believe that, through a series of regulations, through inspections and enforcement and continued use of technology and innovation to help drive safer pipelines, that we can close the gap that you talk about.

Mr. SIRE. Are you insisting or are you making an effort or is somebody making an effort to identify where these pipes are? Because I think that there are a lot of pipes around that have been around a long time and I don't even know if people know exactly where they are.

And the other problem that we had, in the Edison issue that we had, 1994, the firemen would not go into the fire because they didn't know what was there. So what have we done to make sure that the safety of the firemen is guaranteed when they show up at these incidents?

Ms. HOMENDY. Yes, Congressman, that is a big problem.

Right now, PHMSA has a National Pipeline Mapping System, and we have some recommendations for improving the National Pipeline Mapping System, including that they have to provide where high-consequence areas are—these are high-population areas and other areas—so emergency responders know where they are.

There is also a problem on the identification, the accurate location of that pipeline. Right now, in the pipeline mapping system, it is give or take 500 feet. If you are a responder, that is a big deal.

And so what responders need—and you are going to hear from the fire chief later today—is they need to know exactly where the pipeline is. They need to know what is in it. They need to know who the operator is. They need to have a relationship with that operator.

It is like me. I tell operators all the time, "If the first time you meet me is on the scene of an accident, it is not going to be a good day." Firefighters need to work with operators and operators need to work with firefighters so they can adequately plan for a potential incident.

They need to know not just what is in the pipeline but what the worst-case scenario discharge is going to be if there is an incident. They need proper training. They need equipment. And in order to get training, fire departments need to have funding to backfill that position so that people can go get that training.

Mr. SIRES. We have so many communities in New Jersey. We have 561 communities, I think. And I think every community should know exactly what goes through their community so they can find it if there is an incident. And I don't know if that is happening.

Ms. HOMENDY. That is not a requirement.

Mr. SIRES. What is not a requirement?

Ms. HOMENDY. That communities are not informed—I mean, there is some pipeline education and an awareness program that is required under PHMSA regulations, and I am sure the Administrator can talk about that. And so some information does go out to the community about what is operating. But the specific information, like how much and what exactly, people won't know that in real-time. But—

Mr. ELLIOTT. And, Congressman, if I may—and, again, I want to underscore Member Homendy's concern. I mean, prior to coming to PHMSA, my 40 years in the railroad had a long history in your State of New Jersey of working with emergency responders to provide real-time information about the commodities that are moving through those 500-plus communities in northern New Jersey where railroads operate. And I think the same is true of what we need to do in the Nation's pipeline community. I think it is a topic that we need to address more fully.

But, certainly, anything that we can do to help ensure the safety of America's emergency responders with regards to response to pipeline or other surface hazardous-material-type incidents, we need to be working on collaboratively to do that.

Mr. SIRES. My time is up. Thank you very much.

Mr. LIPINSKI. The Chair now recognizes for 5 minutes Mr. Pence.

Mr. PENCE. Thank you, Mr. Chairman.

Thank you, Mr. Elliott and Ms. Homendy.

Let me start out by saying that protecting life is priceless. I would like to ask a couple of questions kind of going off what Congressman Stauber was asking about the monitoring and things like that.

Leak detection in pipelines have been around for a long time, both for economic and safety reasons. Has anything occurred in the systems, in specifically the monitoring system, that warrants faster upgrades? Is it age, material of, as you mentioned, the iron pipes, material deterioration or ground shifts, as was mentioned earlier?

Mr. ELLIOTT. Well, Congressman, at least from the perspective that I have, I think there has been some significant improvement in overall leak detection.

We know, historically, that small-leak incidents will continue to be—until technology avails itself, will always be something that will be more difficult to detect. But I think what I have seen, at least in my time at PHMSA, and understanding more some of the control room technology, is kind of this increase in technology that allows for a quick and prompt identification of more significant releases that will have more of a negative impact to the environment and to human life. And that is something that our inspectors review regularly.

I think there is always more that can be done to improve leak detection capabilities, especially for those smaller leaks. And I think that it is important for us to pursue some of the mandates that Congress have given us in order to put some of those measures into place.

Ms. HOMENDY. I would just add, more important than leak detection—because, certainly, you want to detect a leak when it occurs, even the small leaks, and there are different technologies, and it is not just using one technology, it is using many technologies and choosing the right one, but—is how you inspect your pipeline to ensure that there isn't a leak.

And there are different ways of inspecting pipelines. Pipeline operators use in-line inspection technologies like sensing technologies, using smart pigs. They use pressure testing like hydrostatic testing. Direct assessment is really where they get in and they excavate and look at a pipeline. And they use other technologies like fiberoptics.

The one recommendation that the NTSB has for PHMSA to implement is prohibiting the use of direct assessment as the sole method of inspection.

Because when you are excavating a pipeline and you are conducting direct assessment, you have already sensed there is a problem in that line, and you are excavating for that specific problem that you may have identified to try to look at it and maybe remediate it.

But when you are using maybe in-line inspection or hydrostatic testing, which is a much more comprehensive way of testing, you are not just finding things that you are looking for, you are finding things that you are not looking for and you didn't expect to find. And that is where you can take proactive measures to prevent a leak before it even occurs.

Mr. PENCE. Thank you.

One other question. How will the recent MOU between PHMSA and FERC improve pipeline and facility safety while encouraging our energy security?

Mr. ELLIOTT. Congressman, thank you for the question.

Understandably, there has been an increase in the number of applications for LNG facilities, especially, as we work to become more of an exporter of this energy product.

PHMSA, last October, completed a memorandum of understanding with the Federal Energy Regulatory Commission to assist in their review of these applications. And the memorandum of understanding basically allows PHMSA to apply its safety review of all of these LNG applications and then, once a determination is made, send that determination over to FERC, the Federal Energy



Regulatory Commission, so that they can complete their application and permitting process.

And we do believe, at least in our discussions with our colleagues at FERC, that this will significantly reduce the amount of time that it will take to approve an application for LNG facilities. And I think rightfully so, it gives PHMSA the ability to oversee a process that they are very good at with some of our very talented LNG experts, and that is the safety of these sites.

Mr. PENCE. Thank you, Mr. Chair. I yield my time.

Mr. LIPINSKI. The Chair will now recognize Mr. Malinowski for 5 minutes.

Mr. MALINOWSKI. Thank you, Mr. Chairman.

This issue really hits home in my district in New Jersey because we have a new natural gas pipeline that has been proposed to be built, the PennEast pipeline, which is supposed to begin in Pennsylvania, run through a rural part of my congressional district, chiefly through Hunterdon County, New Jersey. It is a pipeline that will run through people's front yards and backyards, through farmland.

I have never seen an issue, in my short time in politics, that is more unifying to members of my community. They are all against it, for a whole range of reasons—concerned about impact on the environment, a desire not to give up farmland and property in which they have invested years of their lives.

But setting all of those issues aside, there is also the question of safety. I have stood on people's front porches who have shown me pipeline route that will be running within feet of their homes. And given all of the accidents that have happened around the country, they are naturally concerned.

I know we have covered some of this, but I just want to ask you, Ms. Homendy, given all of the safety recommendations that have not yet been fully implemented, what would you say if you were standing with me on the front porch of one of my constituents who is facing the potential of a pipeline running through their front yard or backyard, what would you say are the essential steps that would have to be taken by a company building a new pipeline so that you could join me in telling them that, setting aside all those other concerns, at the very least, their families will be safe? What would be your specific checklist?

Ms. HOMENDY. Well, the checklist would obviously be that they have to comply with existing standards. But then we have a number of other ones that we have recommended: automatic shutoff valves, proper leak detection, proper inspection, repair of pipelines, and, frankly, strengthening the integrity management program. We have identified some significant issues with some recent pipeline accidents where pipeline operators' integrity management program is not as sufficient as it should be.

And integrity management is really how they conduct inspection, how they determine where their high-consequence areas are, how they determine their threats and the risk to the pipeline. If they just look at what has happened over the last couple years and not really much broadly, they may determine that it is a different threat.

But I am going to be honest with you. At the beginning of my testimony, I said pipelines are one of the safest modes of transportation, but you can't guarantee there will never be an accident. And when an accident occurs, it can be tragic. The best we can do is continue to advocate for safer and safer systems.

And while the NTSB does not have a role in the planning or the permitting of a new pipeline, we do urge adoption of our existing and future safety recommendations to ensure pipeline safety.

Mr. MALINOWSKI. Thank you.

And in the case of a new pipeline—and, again, I understand that is not formally your role, but would your office be willing to work with ours to look at plans for a new pipeline and advise us as to whether they live up to the highest standards that you are recommending?

Ms. HOMENDY. We are always willing to work with your office and provide information where we are able. I am happy to meet with you and meet with your staff as well.

Mr. MALINOWSKI. Thank you so much.

I yield back.

Mr. LIPINSKI. The Chair now recognizes Mr. Davis for 5 minutes.

Mr. DAVIS. Thank you, Mr. Chairman.

And thank you to the witnesses.

I will start with Mr. Elliott.

Back in my district, I recently heard from a constituent regarding a shallow pipe buried under his farmland. Central Illinois has some of the best farmland in the country, so it is no surprise my constituent was concerned with his inability to farm the land above and surrounding the pipe.

My question for you is, are there any gaps in current legislation regarding shallow pipes that we can address in the upcoming reauthorization? And, additionally, can we do anything to better the process by which landowners and pipe owners settle such disputes?

Mr. ELLIOTT. Congressman, thank you for the question. I will answer the second part of your question first.

I do think one of the most important aspects of pipeline construction is the interaction that goes on between the landowner and the pipeline company to ensure that what is being installed is, first of all, being installed in a very safe fashion and allows certain appropriate uses of that land once the installation has been made. I think that is something that can always be addressed further with the pipeline operating companies.

With regards to your first question, I am not specifically aware of the specifics of the depth of pipeline. But with regards to your comment about is that something that might be addressed in reauthorization, I am happy to work with your office on thoughts and ideas on that.

Mr. DAVIS. Well, great. Thank you very much for your time.

And hello, Ms. Homendy. How are you?

Ms. HOMENDY. Hello, sir. It is good to see you.

Mr. DAVIS. You know, it is great to have you on that side of the table.

Ms. HOMENDY. It is very different.

Mr. DAVIS. Oh, I am sure it is. I am sure it is. I mean, I hope you enjoy your new job. I didn't know you would have to come back so soon and face Chairman DeFazio once again.

Ms. HOMENDY. Well, if there was going to be a hearing that I was going to testify at, this would have been the one. Thank you so much.

Mr. DAVIS. Well, I made sure I did not leave before I got a chance to question you today.

Ms. HOMENDY. Oh, perfect. I hope it is an easy question.

Mr. DAVIS. Well, of course. Well, you know, as a former staffer myself, I can appreciate, you know, you going to that side and coming to face us once again. And we have a history together. It is great to have worked with you in your last capacity. And I know it is not easy working with Chairman DeFazio and Chairman Lipinski, but they are good people.

So I wanted to ask you—

Mr. LIPINSKI. The gentleman's time is up.

Mr. DAVIS. Well, my clock says something different, Mr. Chairman.

Ms. HOMENDY. No comment.

Mr. DAVIS. You know, I didn't have a specific question for you, so I texted a good friend of mine to get a question. And that was our former colleague, Mr. Capuano. And I know you are surprised that Mr. Capuano got back to me.

So the question that he wanted me to ask you is, how much do you miss working with him?

Ms. HOMENDY. I mostly miss the outfits he wore, specifically the short-sleeve shirts under the nice jackets. No, I mean, he was amazing.

Mr. DAVIS. Lipinski has one on today.

Ms. HOMENDY. He was fantastic to work with. And I very much miss him and his accent.

Mr. DAVIS. Well, yes, you both have accents. Yes, you do. He wanted me to wish you well and congratulate you.

And I texted my wife, Shannon, who you know, and she wanted to offer her congratulations too. And we are very proud of you and look forward to working with you, Jen.

Thanks for putting up with my first questions. Next time you are here, I am going to have some really detailed questions for you.

Ms. HOMENDY. I am excited because I am testifying next Tuesday in front of your subcommittee, so I will anticipate those.

Mr. DAVIS. Oh, I can't wait. Hey, congratulations. We will see you then.

I yield back, Mr. Chair.

Mr. LIPINSKI. OK, Mr. Davis. I am going to have to look into the rules of what the chair can do about kicking members off of subcommittees. And I do have sleeves.

I will now recognize Mrs. Fletcher for 5 minutes.

Mrs. FLETCHER. Thank you, Chairman Lipinski. Thank you for holding this hearing, and to Ranking Member Crawford as well.

And thank you to the witnesses for taking time to testify.

This committee has talked a lot about what it means to build a modern infrastructure and what we need to do to have one for the next century. And many know that our Nation's roads and bridges

are in dire need of investment and updating, but we also know that infrastructure isn't just roads and bridges and that pipelines make the modern world we live in possible.

If you live in my district, in Houston, you live near a pipeline. And that is true across the country. And pipelines are really unseen infrastructure, but they stretch from coast to coast and especially to the gulf coast, where I live.

There are 2.6 million miles of paved roads in the United States, and there are more than 2.5 million miles of pipeline in the United States. And people, when I talk to them, are surprised to hear that, but it is true. It is just as important. And I think that the emphasis on addressing our pipeline needs in this hearing and on this committee is incredibly important.

Thanks to the recent energy renaissance in shale extraction, our domestic outlook has shifted dramatically. And as we just heard a little bit about the MOU, facilities originally designed to import liquified natural gas are now massive export facilities, and U.S. producers are expected to dominate the market.

These radical changes have occurred throughout the industry, but the rules and regulations have not kept pace, and we need them to. I look forward to hearing both from administration officials today and from industry and safety advocates on the opportunity for improvements to our current system.

And my questions for this portion of the hearing are really directed to Administrator Elliott. We often hear about how PHMSA needs more pipeline inspectors on staff, but I am curious about the staffing needs for technical and rulemaking staff.

So my first question is, has a shortage in staffing among technical staff and those involved in the rulemaking process contributed to PHMSA's slowness in issuing the rules prescribed by congressional mandate that date back to 2011?

Mr. ELLIOTT. Congresswoman, thank you for the question.

When I first became Administrator in October of 2017, you are correct, we were facing a pretty significant staffing issue. I am pleased to say that we have made some significant headway in staffing of our technical staff, not only the technical staff, both on the pipeline and hazmat side.

And sometimes when we talk about PHMSA we forget about the surface hazmat side, that we have some highly capable people that deal with the reactive materials and explosives and radioactive components and pressure vessels. So there is a great amount of technology on that side of the equation as well.

But we have made some significant strides in helping to close the gap of bringing on, especially on the pipeline side, good-quality technical folks. As you know, we are in competition, especially in your district, of trying to bring on good-quality engineers that we can turn into some of the best pipeline inspectors in this country. But I think we, through some direct hiring capabilities we have, through broadening our outreach to a wider array of colleges and universities, I think we are closing that gap.

But I will tell you that I do think that the talent that we are bringing on bring with them some great technical foundation. I think perhaps what concerns me most is that we, like many businesses and many other Federal agencies, we are seeing a signifi-

cant amount of our highly skilled, experienced staff reaching that retirement eligibility age. And we are really working hard to try and do the best we can to create a transfer of knowledge of that information before it goes out the door.

So, on the technical side, I think we have identified not only how to maintain our staffing but also to do as good a job as we can to make sure that we transfer that technical knowledge.

On the rulemaking side, I will tell you this, my impression, that I think we have a highly skilled staff on the rulemaking side. We have made some changes in our rulemaking staff that makes it a little bit more nimble and agile to kind of allow us to put resources to both, either the pipeline or the hazmat side of the rulemaking, depending where the surge is at the time.

But I think between the technical staff, the subject-matter experts that provide input into the rulemaking, I think the staff of economists that we have that do the analysis, and then I think the group of attorneys that also do that legal review that is required, are all top-shelf, and I am really proud of the work that they do.

I think one of the first things I saw at PHMSA was how could we make that rulemaking group be more efficient and effective. Again, we try to now work as quickly as we can on our rulemaking process to make sure that we complete our work and then before we pass it off to others that have to review it as well.

Mrs. FLETCHER. I see that my time has expired, so thank you very much.

I yield back.

Mr. LIPINSKI. Thank you, Mrs. Fletcher.

Mr. LIPINSKI. I will now recognize Mr. Allred for 5 minutes.

Mr. ALLRED. Thank you, Mr. Chairman.

And thank you to the witnesses for being here today. I want to welcome you, and I look forward to hearing your thoughts on how we can enhance safety in our Nation's pipeline network.

As a Texan—I represent Dallas—I am proud to be serving on this subcommittee, as I understand the importance of the oil and gas industry to our State's economy. And the energy industry employs thousands of Texans, and across the State we are doing a lot to power this country and also to make us an exporter now as well.

And I also understand the great importance of ensuring the safe operation of pipelines and pipeline facilities. We have talked a lot about that today, of course. Last year, there were several troubling pipeline incidents in Texas, including one in Dallas, just outside of my district.

Ms. Homendy, I understand the NTSB is currently investigating a February 2018 natural gas explosion in Dallas, right outside my district, that killed a 12-year-old girl and injured four others. According to the NTSB's preliminary report, more than 300 residences were evacuated due to a number of gas pipeline leaks in that neighborhood.

Can you walk me through what the investigation has found so far and provide a timeline for when the NTSB will issue a final report on the investigation?

Ms. HOMENDY. Sure. And I just want to extend our deepest condolences to that family who, sadly, lost a 12-year-old and the re-

maining four members were injured. As a mother of an 11-year-old, I can't imagine the pain and what they are experiencing.

But as you mentioned, the accident occurred on February 23, 2018. Our preliminary report was issued on March 23. It is still under investigation.

Odor reports and activity by Atmos in the neighborhood indicated that leaks were first detected almost 2 months prior to the explosion. Atmos was performing work on pipelines just prior to the incident.

While on scene, NTSB investigators identified three sections of pipe which failed a pressure test. One was behind the residence where the explosion occurred, and it had a circumferential crack in the pipe.

Atmos has claimed in some recent articles that the rupture was due to heavy rain and soil composition. So the NTSB contracted with the Army Corps of Engineers to take soil samples and conduct geological testing. We did that in San Bruno, as well, to rule out seismic activity. The report on that from the Army Corps of Engineers is due on April 30.

We intend to open the public docket on this incident at the end of June and issue a report shortly thereafter. In general, we are looking at pipeline operations, the adequacy of Atmos's integrity management program, human performance, their safety management system if they had one, and the adequacy of emergency response.

Mr. ALLRED. Well, thank you. And, you know, my wife and I just had a baby as well, and, you know, I can't imagine being in your home and having that happen and losing a child like that.

There has been a lot of talk today about PHMSA's unimplemented safety provisions. And I am interested if there are any specific provisions that you think would have prevented or reduced the likelihood of this particular incident.

Ms. HOMENDY. It is a great question. It is one that I can't answer yet because the investigation is still ongoing. But I can tell you that our staff at the NTSB—I have only been there 7½ months, but I have worked with the NTSB for many, many years, which is why I wanted to go there. The staff is incredible.

So I will tell you that if there is a recommendation that needs to be issued to ensure safety and address what occurred in Dallas, it will be issued.

Mr. ALLRED. Well, thank you so much. And I appreciate your comments.

I yield back.

Mr. LIPINSKI. The Chair will now recognize Mr. Payne for 5 minutes.

Mr. PAYNE. Thank you, Mr. Chairman. Thank you for holding this timely hearing as well.

Let's see. Mr. Elliott, my question has to do with what we are doing to protect critical safety gaps. And my issue is around water pipelines.

I am from New Jersey. It seems like the committee is dominated by New Jerseyans. I am from New Jersey as well, from the city of Newark. And we have a reservoir system up in the western part of the State, which is pretty interesting because most of the water

is moved by gravity, as opposed to pumping stations, because of proximity in the mountains.

And so I am just very concerned about the safety of those pipelines coming such a great distance. And I am concerned about that because of my representation there in Newark. So, you know, given my district's reliance on, you know, this infrastructure, this pipeline, I want to make sure that it is safe and protected.

So what are you doing around water infrastructure in terms of safety?

Mr. ELLIOTT. Well, Congressman, thank you for the question. Having been a resident of New Jersey for 13 years, I know exactly the infrastructure that you are talking about.

You know, PHMSA does not have oversight over water pipeline systems, but, certainly, where multiple pipelines come into close proximity, there is always a concern for safety.

But to perhaps address on the more broader question about what are we doing to enhance safety, I think from the point of view, at least, from the State of New Jersey, several things I can talk to.

You know, first of all, with regards to PHMSA oversight of transmission lines in the State, we have an office in Trenton, and the inspection staff there is responsible for working with transmission pipeline operators in the State to inspect any new construction but also to oversee maintenance and operations of their pipeline systems to ensure the safety and the integrity.

Of course, in New Jersey, as I had mentioned earlier, 80 percent of the Nation's pipeline is part of a distribution network that is, for all intents and purposes, overseen by State regulators. We do have a responsibility there too. And while most State pipeline offices do a very good job of overseeing intrastate pipeline, we do have a responsibility to work with them to make sure that the work that they do helps comply with at least the minimum Federal standards that we put into place.

So it is kind of a tag-team approach between what PHMSA can do with transmission lines and the State oversight on some of the distribution networks. Our intent is to make sure that all operators, whether or not it is a distribution system or a transmission line, comply with the regulations and ensure the safety of their operations for the good people of New Jersey.

Mr. PAYNE. OK. Well, thank you. And I apologize for trying to give you responsibility of that area as well. So thank you, though.

Mr. ELLIOTT. Well, as long as it doesn't come with more mandates that I would get in trouble for.

Mr. PAYNE. Thank you, Mr. Chairman. I will yield back.

Mr. LIPINSKI. The Chair will now recognize Mr. DeSaulnier for 5 minutes.

Mr. DESAULNIER. Thank you, Mr. Chairman.

Mr. Elliott, I want to ask you about changes to PHMSA after the 2010 San Bruno explosion in northern California. I appreciate you coming into the office and meeting with me given the number of hazardous material sites in my district in northern California.

But when this incident happened, the incident lasted for 95 minutes. NTSB came back and said that that was a contributing factor to the fact that 70 homes were lost and 8 people's lives were lost.

It is a continuing concern. Certainly, we have our own unique seismic issues we have to deal with in California.

But I wanted you to give the committee an update as to implementation of the direction from Congress after that incident in terms of automatic valves and remote control shutoffs.

Mr. ELLIOTT. Well, Congressman, thank you for your time the other day, and I was quite interested to learn more about the district and some of the challenges you face there.

You know, it was September of 2010 when San Bruno occurred, and I believe there were eight fatalities. And terrible tragedies like that should not occur under any circumstances.

Earlier today, I spoke of, based on questions that I heard from members of the subcommittee, about progress in our rupture detection and automatic valve rule, which, quite frankly, has languished behind several of the other pipeline rules that we had been working on, one on pipeline liquid safety and one on gas safety.

A lot of what you are talking about from the incident at San Bruno we hope to resolve with the rupture detection and automatic valve rule that is in the notice-of-proposed-rulemaking stage. We hope to have that out for public comment very shortly. And then, once we can see the responses back from that, we hope to move that to a final rule.

We know we have some work to do there. We know that the specter of the incident in San Bruno is still something that we talk about quite often at PHMSA and our need to do more to make sure that we never have a repeat of an incident like that.

Mr. DESAULNIER. I appreciate that.

And coming from a district that has the largest geographic and population density of hazardous material sites, as I explained to you, with four refineries in an urbanized area, it is not unlike Philadelphia or these urbanized areas where, generally, we do a very good job. But all it takes is that one incident. And, certainly, for the people affected, you can't explain our inability to provide these kind of remedies.

For NTSB, have there been other incidents, Ms. Homendy? And I am sorry I wasn't hear for Mr. Davis's dialogue. And I will be happy to text Mr. Capuano if you would like. But could you give us any information, have there been other incidents where these type of remote control valves or automatic shutoffs would have helped in incidents since the San Bruno one?

Ms. HOMENDY. There have been many incidents where they would have. I mean, we have, in general, an issue with pipelines being shut down promptly once an incident occurs and, actually, the operator knowing about the problem.

With PG&E, we had an incident not too long ago where, you know, it was 2 hours to shut down the pipeline. And this one, it was 95 minutes. And we did find that it severely hindered emergency response operations because of the lack of shutoff valves and also a lack of appropriate training for pipeline personnel, who had gone and didn't know how to deal with the manual valves.

But, in other instances, you have prior PG&E incidents where it took them 2 hours and 45 minutes to shut it down, or 9 hours, or you had a Centreville, Virginia, incident which was 2 hours. And



then, certainly, in the Enbridge pipeline incident in Marshall, Michigan, that was 17 hours.

So I think the history on pipeline accidents is we need to be able to detect a leak properly and then to shut down the pipeline. And, you know, automatic and remote shutoff valves sort of take the human out of the equation.

I will say the recent Merrimack Valley incident, where you had manual valves—and while Columbia Gas was able to shut down the regulator station within 3 hours, they were not able to turn off the gas for 3 hours. So that also contributes to significant issues.

Mr. DESAULNIER. It would be helpful for me and, I assume, the committee, any kind of updates you could provide on a timeline. Because it is certainly urgent for those of us who live in these areas with urban areas and the high concentration of pipelines.

Thank you, Mr. Chairman. I yield back.

Mr. LIPINSKI. The Chair will now recognize the vice chair of the full committee, Mr. Carbajal, for 5 minutes.

Mr. CARBAJAL. Thank you, Mr. Chair.

Administrator Elliott, thank you for coming before our committee to discuss pipeline safety.

This is a particularly important issue for my constituents on the central coast of California. From the 1969 Santa Barbara oil spill to the 2015 Plains All American Pipeline oil spill at Refugio Beach, we have seen the damage oil spills inflict on our communities and local economies.

In 2011, the House worked in a bipartisan way to pass the Pipeline Safety Act. This law, which passed the House unanimously, directed PHMSA to update and strengthen key pipeline safety standards. Today, 8 years after the enactment of the Pipeline Safety Act of 2011, rulemakings related to leak detection and emergency shut-off valves are still not finalized.

While it is my understanding that a notice of proposed rulemaking is finally on the way later this summer, this was after an 8-year delay and after much advocacy. Clearly unacceptable.

And I know your service just started in 2017, but you become the spokesperson to address these issues today. So let me ask you, why has this taken so long?

Mr. ELLIOTT. Well, Congressman, thank you for the question. And I share your concerns about the length of time that it has taken to move these rules through. And I appreciate your comment about my adoption of things that might have happened or didn't get done prior to my time coming on as Administrator.

I think there are several factors that came into play. With the determination after this subcommittee—when I testified before this subcommittee last June, I had to go back and make some decisions about what rules do we want to focus on first. And while I think we have an extremely capable rulemaking staff, it still has limited resources. And I honestly think they are working the best they can.

But I went back and I focused on the rules with that team that I thought would have the greatest impact to safety the quickest. And the two that we really focused on dealt with surface hazmat transportation issues—one dealing with response to major rail incidents, should they occur, with petroleum crude oil; and the other

with the safety of lithium ion batteries, removing cargo-type lithium ion batteries from passenger commercial airlines.

And once that work was done, then we really did turn our attention back to these important pipeline mandates. And kind of the order that they came in was the safety of liquid pipeline rule, which we have completed our work and it is now at OMB, and we are hoping that we have a quick turnaround there.

And then the second and perhaps the one that is more responsive to you was the gas rule, which had been identified as the mega rule, and ultimately what we did to help streamline that was to break it into three parts. And the most important part, the part that contains the mandates that were brought forward by Congress, are the ones that we have now completed our work on, and that is also going through internal review.

We do know we have work to do on—

Mr. CARBAJAL. Thank you. I am going to stop you there because I have a few more questions.

Have any of the administration's Executive orders caused any further delays on the implementation of safety rules?

Mr. ELLIOTT. I do not believe so. You know, we focus on moving forward safety rules each and every day.

And I think a good example of a nonmandate safety rule that we just recently published as a final rule is the plastic pipe rules. We were looking for ways within PHMSA to help us incentivize replacement of the aging distribution pipe network. And we thought this was one where new technology in plastic pipe construction would allow us to do that.

Mr. CARBAJAL. Thank you.

And, lastly, what are some of the ways that we can reform the PHMSA process to ensure we do not have these lengthy delays in the future?

Mr. ELLIOTT. Well, Congressman, I mentioned earlier, I have worked hard at PHMSA to make sure that our portion of the rulemaking process is as good as it can be, that when we have a rule that we are moving, because it is one we have identified is necessary for improving pipeline or hazardous material safety or it is a mandate from Congress, that we work as quickly as possible to complete our portion of that rulemaking.

We have done that through several ways: kind of just building an additional sense of urgency in our rulemaking process; and the second part, as I had mentioned earlier, kind of creating a more streamlined internal pipeline and hazardous material rulemaking process that allows us basically to utilize existing staff to the fullest potential to make sure that we are moving those rules that have the greatest impact.

Mr. CARBAJAL. Thank you.

Mr. Chair, I yield back.

Mr. LIPINSKI. Thank you.

I want to thank Administrator Elliott and Member Homendy for their testimony today. There will be followup questions, I am sure, from this hearing, and we will be calling on you further as we move forward with this pipeline safety reauthorization bill.

So thank you very much for your testimony today.

Mr. ELLIOTT. Thank you, Mr. Chairman.

Ms. HOMENDY. Thank you.

Mr. LIPINSKI. And I will call up the second panel.

I would like to welcome now our next panel of witnesses: Mr. Carl Weimer, executive director of the Pipeline Safety Trust; Mr. Andrew Black, president and CEO of the Association of Oil Pipe Lines; Fire Chief Dan Eggleston, EFO, CFO, CMO, president and chairman of the board, International Association of Fire Chiefs; Mr. Richard Kuprewicz, president of Accufacts Inc.; Mr. Robin Rorick, vice president of midstream and industry operations, American Petroleum Institute; and Mr. Elgie Holstein, senior director for strategic planning, Environmental Defense Fund.

Thank you for being here today. I look forward to your testimony.

I ask unanimous consent that our witnesses' full statements be included in the record.

Without objection, so ordered.

And as with the previous panel, since your written testimony has been made part of the record, the subcommittee will request that you limit your oral testimony to 5 minutes.

So we will begin with Mr. Weimer. You are recognized.

**TESTIMONY OF CARL WEIMER, EXECUTIVE DIRECTOR, PIPELINE SAFETY TRUST; ANDREW J. BLACK, PRESIDENT AND CEO, ASSOCIATION OF OIL PIPE LINES; FIRE CHIEF DAN EGGLESTON, EFO, CFO, CMO, PRESIDENT AND CHAIRMAN OF THE BOARD, INTERNATIONAL ASSOCIATION OF FIRE CHIEFS; RICHARD B. KUPREWICZ, PRESIDENT, ACCUFACTS INC.; ROBIN RORICK, VICE PRESIDENT OF MIDSTREAM AND INDUSTRY OPERATIONS, AMERICAN PETROLEUM INSTITUTE; AND ELGIE HOLSTEIN, SENIOR DIRECTOR FOR STRATEGIC PLANNING, ENVIRONMENTAL DEFENSE FUND**

Mr. WEIMER. Good afternoon, Chairman Lipinski and members of the committee. Thank you for inviting me to speak about pipeline safety today.

Before we get into various pipeline safety issues, let me give you a brief overview of where we stand today regarding the safety of pipelines in this country.

While everyone testifying today supports the goal of zero incidents, we still have a long way to go to reach that goal. According to PHMSA data, since the PIPES Act was signed, less than 3 years ago, there have been over 1,700 reportable pipeline failures. Of those failures, nearly 800 are considered significant incidents under PHMSA's definitions, and the number of significant incidents has been increasing over the past decade.

For the past 15 years, the emphasis in reducing pipeline incidents has been focused on performance-based integrity management programs. Unfortunately, it would appear that these integrity management programs have not yet lived up to their promise, as significant incident rates within high-consequence areas continue to climb for hazardous liquid and gas transmission pipelines.

The pipeline safety system that Congress has created plays a part in PHMSA's inability to get things done. One of the large barriers to getting better regulations in place is the cost-versus-benefit analysis that Congress has uniquely created for only PHMSA. With a large pipeline system, where the probability of a failure is low

but the consequence can be huge, it is nearly impossible to pass regulations under the current cost-benefit rules.

If you are really interested in longstanding issues, such as effective leak detection, automated shutoff valves, and the regulation of over 400,000 miles of unregulated gathering lines, then the cost-benefit language in the statute needs to be fixed.

PHMSA's penalty authority provided by Congress results in civil penalties that are economically insignificant to many operators and are much smaller than those imposed by some States. The wording in the statute for criminal penalties also does not align with the better wording for PHMSA's hazmat operations and creates a very high bar to prove. We have provided suggested changes to the statute that can give PHMSA more flexibility in penalty assessment and the ability to bring criminal charges on companies in the rare cases where that is warranted.

As currently written by Congress, the pipeline safety statutes do not prohibit the release of gas or hazardous liquid from a pipeline. Under current PHMSA rules and as determined by recent court rulings, an operator can cause a significant incident without necessarily having violated a safety regulation. In other words, under PHMSA's rules, an operator has to have a plan for operating and testing their pipeline, but they don't necessarily have to have a plan that works. To close that loophole, we ask that you add language to make clear that the intent of a statute is to avoid releases of gas and hazardous liquids.

In the PIPES Act, Congress asked the GAO to produce important reports on the integrity management program for both natural gas and hazardous liquid pipelines after the new rules PHMSA has been working on since 2010 are published. Since those rules have yet to be published, it may be delayed further. These important reports are not yet due.

The current integrity management rules have been in place for over a decade, are well-understood, and NTSB has done a study on its effectiveness. So we ask that Congress direct GAO to produce these important reports as soon as possible instead of waiting for the proposed rules.

Congress should also ignore industry calls for a relaxation of class location rules because integrity management is in place until these GAO reports are done and the number of incidents under integrity management shows a downward trend.

Also in the PIPES Act, Congress directed PHMSA to make it clear that the Great Lakes, coastal beaches, and marine coastal waters are considered unusually sensitive areas. This mandate is yet to be accomplished. The need to do this came as a surprise to us since, clearly, these areas are unusually sensitive. We were also surprised to learn that PHMSA does not currently have a way to define and map all such areas.

Congress should ask GAO to do a study of whether PHMSA's definitions and identification of such areas, along with commercially navigable waterways, are consistent with other environmental regulations and whether PHMSA currently has GIS data layers that allow the agency and industry to know where such boundaries are and uses this data to ensure pipeline operators are accurately identifying these areas.

Congress should also mandate that such areas be made public so State and local governments, along with the public, can ensure that PHMSA and pipeline companies are correctly designating such important areas.

I see my time is about up, so I want to thank you again for inviting me to testify today. And I am glad to answer any questions and work with the committee as you move forward on reauthorization.

[Mr. Weimer's prepared statement follows:]

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**Prepared Statement of Carl Weimer, Executive Director, Pipeline Safety Trust**

Good morning Chairman Lipinski, Ranking Member Crawford, and members of the committee. Thank you for inviting me to speak today on the important subject of pipeline safety. My name is Carl Weimer and I am the Executive Director of the Pipeline Safety Trust.

The Pipeline Safety Trust came into being after a pipeline disaster nearly twenty years ago—the 1999 Olympic Pipeline tragedy in Bellingham, Washington that left three young people dead, wiped out every living thing in a beautiful salmon stream, and caused millions of dollars of economic disruption. While prosecuting that incident the U.S. Justice Department was so aghast at the way the pipeline company had operated and maintained its pipeline, and equally aghast at the lack of oversight from federal regulators, that they asked the federal courts to set aside money from the settlement of that case to create the Pipeline Safety Trust as an independent national watchdog organization over both the industry and the regulators.

After the Bellingham tragedy our community, from the local level to our congressional delegation, all joined in the effort to ensure that a tragedy like that would “never happen again, anywhere.” Unfortunately many tragedies have occurred since then, some of them worse than Bellingham, and after each tragedy the people in those affected communities try to find a way to ensure it will “never happen again, anywhere.” So here I am again today, nearly twenty years after my first testimony, representing all those communities and all those people searching for a way to prevent tragedies so they never happen again. We hope you will continue to work together in a bipartisan way to help us finally accomplish this.

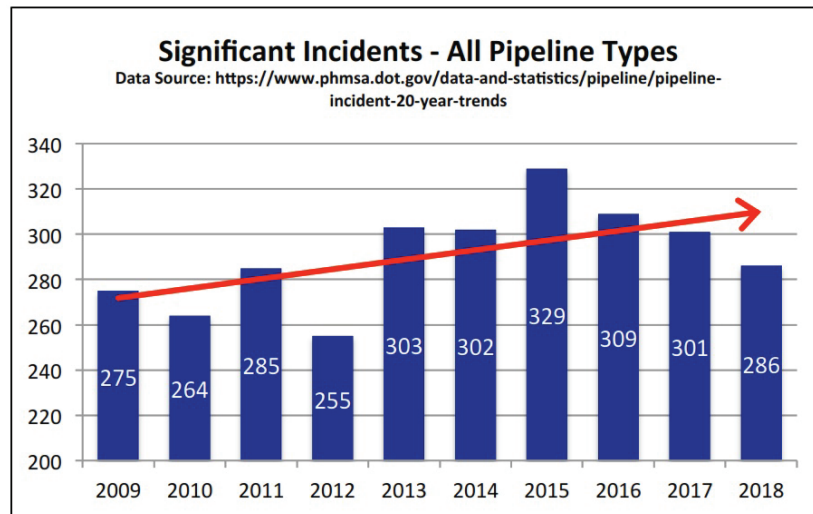
Today I would like to focus my testimony on:

- An overview of the safety of the current pipeline system in this country
- Needed Improvements to the Statutes that Cover Pipeline Safety
  - Remove redundant and excessive Cost-Benefit Requirements Under 49 USC § 60102
  - Civil and Criminal Penalties under § 60122 and § 60123
  - Need for Mandamus Clause under § 60121
  - Clarify that reportable unintended releases are prohibited under § 60118
  - Ensure PHMSA follows the intent of reporting under §60102
  - Clarify and increase authorized appropriations under § 60125
- Other Still Needed Improvements
  - Require minimum standards for over 435,000 miles of natural gas gathering lines
  - Performance standards for hazardous liquid leak detection, and gas transmission rupture detection
  - Requirements for automated remote shut-off valve placement and performance requirements on transmission pipelines.
  - Pipeline Segments that cross rivers are not sufficiently protected by existing rules
  - Address shortcomings in the way PHMSA defines and addresses Unusually Sensitive Areas for hazardous liquid pipelines
  - Reduction in Methane Emissions from Gas Pipelines
- Hopeful Initiatives in the Works
  - Safety Management Systems
  - Voluntary Information Sharing System for Pipelines

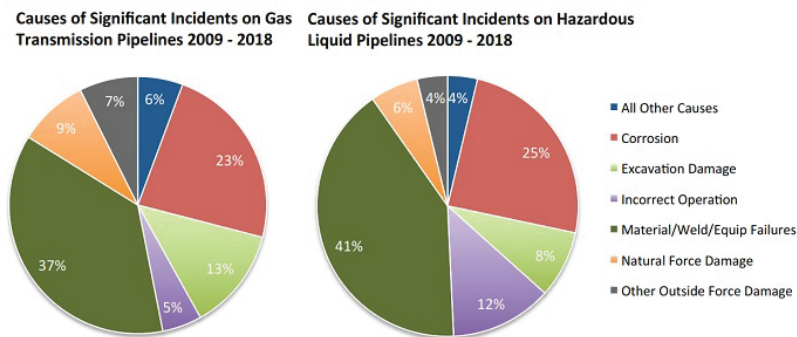
**Overview of the Safety of the Current Pipeline System**

Before we get too far into various pipeline safety programs I want to provide information regarding how well the current system is providing for safety. While everyone testifying today supports the goal of zero incidents, we still have a long way

to go to reach that goal. According to data provided by the pipeline industry to PHMSA, in just the years since the President signed the PIPES ACT of 2016, there have been over 1700 reportable pipeline incidents. Of those incidents over 775 are considered Significant Incidents under PHMSA's definitions. That amounts to an average of over 20 significant pipeline failures every month since PHMSA's pipeline safety program was last reauthorized. Even more concerning than the raw number of failures is that while we have all been saying the goal is zero incidents the number of significant incidents including all types of pipelines has been increasing over the past decade according to PHMSA data (See graph), with the majority of that increase attributable to hazardous liquid pipelines.



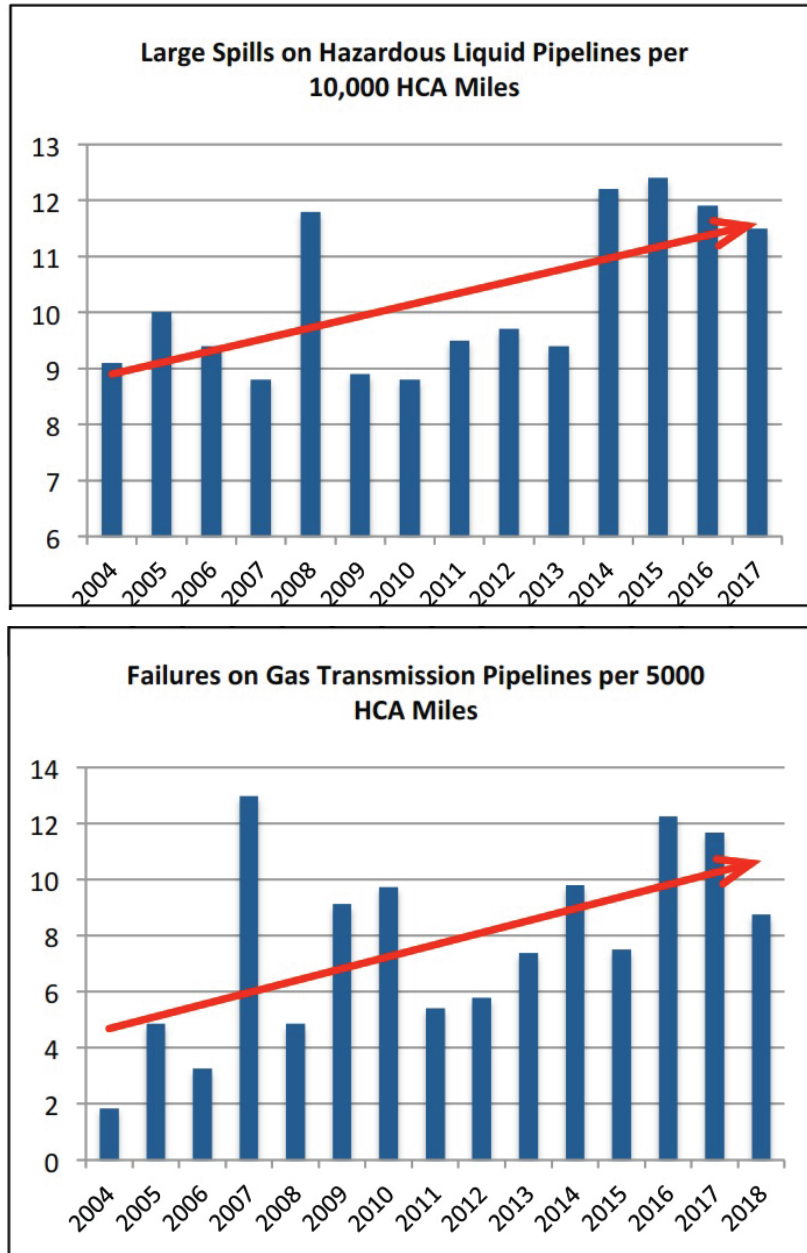
Also of concern is that for gas transmission and hazardous liquid pipelines over 65 percent of the significant failures in the past decade are from causes the operators ought to have control over such as corrosion, incorrect operations, equipment failures, and problems with the materials they use and the welds they make. The pie charts below, generated from PHMSA data <sup>1</sup>, demonstrate this problem.



Over the past fifteen years much of the emphasis in reducing pipeline incidents has been focused on Integrity Management efforts in High Consequence Areas. The theory behind Integrity Management programs makes perfect sense—focus efforts in those areas where the most harm to people and the environment may occur, work hard to identify the risks in those areas, put into place programs to test for and

<sup>1</sup> <https://www.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-incident-20-year-trends>

mitigate those risks, and implement a continuous improvement program to drive down the number of failures.



Unfortunately, for hazardous liquid pipelines and gas transmission pipelines it would appear that these integrity management programs have not yet lived up to their promise as incident rates within High Consequence Areas continue to climb.

These two graphs, generated from PHMSA's Integrity Management Data<sup>2</sup>, demonstrate this concern with current integrity management programs. Some in the industry argue that older, prescriptive class location rules can now be relaxed because of the implementation of integrity management, but as the graphs above show it is too early to go to a more performance-based integrity management system until the industry can prove that integrity management works as it should.

#### **Cost-Benefit Requirements Under 49 USC § 60102**

The years since 2010 found us too often examining the failures that led to major pipeline incidents: Marshall, Michigan; San Bruno, California; Allentown, Pennsylvania; Sissonville, West Virginia; Harlem, New York; Mayflower, Arkansas; two spills into the Yellowstone River, oil flowing into the ocean off Santa Barbara, and too many more. Against that backdrop of incidents and Congressional directives, NTSB and GAO recommendations, these years also provided a perfect example of a broken regulatory process that left PHMSA incapable of producing a single major new safety rule. There are many reasons the process is not working but chief among them is the unique and onerous cost-benefit requirements that PHMSA finds itself saddled with.

In 1996, a concerted Congressional effort was made to insert cost-benefit analysis requirements into rulemaking requirements under a whole host of environmental protection and health statutes, presumably as a way to reduce regulatory burden and codify the requirements for regulatory cost benefit analyses put in place by Presidents Reagan and Clinton in Executive Orders. Those Congressional efforts ultimately fell short of wide spread success because so many members of Congress realized how such measures in the statute would provide a well funded industry a strong litigation hook that would make it too easy to successfully challenge new regulations and nearly impossible to adequately protect people's health and safety. The 1996 reauthorization of the pipeline safety program, based solely on timing, represents the only health and safety or environmental protection statute where such an explicit directive to an administrative agency to base regulation of risk on a cost-benefit test was actually inserted into statute.

PHMSA rulemaking is therefore subject to two sets of cost-benefit requirements—one under the Pipeline Safety Act and one under the Executive Order that requires an economic analysis of every major rule reviewed by OMB before being published as a proposed rule and subject to comment. We urge you to put PHMSA's rulemaking on an even playing field with all other agencies by amending 49 USC § 60102 to eliminate references to the risk assessment/cost-benefit analysis in §60102(b)(2)(D) and (E); §60102(b)(3), (4), (5) and (6). PHMSA would remain subject to the requirements of the Executive Orders requiring a cost benefit analysis of major rules proposed by any agency, and the requirements for transparency in rulemaking provided by the existing statute and procedures.

A clear example of problems excessive cost benefit analysis can cause can be seen in the lack of regulation of rural natural gas gathering lines. According to a recent briefing from PHMSA<sup>3</sup> to the Gas Pipeline Advisory Committee they estimate that there are over 438,000 miles of such gathering lines in the country falling outside of any federal or state pipeline safety regulation. Many of these lines are the same size and pressure as transmission pipelines, so pose the same risk. The regulation of these lines has been one of our top priorities for years now, and it is now one of the state regulators' top priorities also. In 2010 the state regulators passed a resolution<sup>4</sup> that says in part:

***WHEREAS: In the newer gas gathering systems, it is not uncommon to find rural gas gathering pipelines up to 30' in diameter and operating at a MAOP of 1480 psi.***

***NOW THEREFORE BE IT RESOLVED: That NAPSUR urge PHMSA to modify 49 CFR Sections 192.8 and 192.9 to establish regulatory requirements for gathering lines in Class 1 areas:***

<sup>2</sup> Hazardous Liquid Integrity Management Performance Measures—<https://www.phmsa.dot.gov/pipeline/hazardous-liquid-integrity-management/hl-im-performance-measures>  
Gas Transmission Integrity Management Performance Measures—<https://www.phmsa.dot.gov/pipeline/gas-transmission-integrity-management/gt-im-performance-measures>

<sup>3</sup> PHMSA Gas Pipeline Advisory Committee Meeting Pre-briefing, December 20, 2018—<https://primis.phmsa.dot.gov/meetings/FilGet.mtg?fil=1028>

<sup>4</sup> <http://www.napsr.org/SiteAssets/NAPSUR-Resolutions-Open/201002%20Gas%20gathering%20line%20class%201%20Resolution.pdf>



Since these 438,000 miles of pipelines are completely unregulated no one collects any information about their location, construction, size, pressure, risks, failure incidents, etc. Since no regulator collects any information it is nearly impossible for PHMSA to pass regulations because how can they quantify the required costs or benefits? In a recent position paper on gathering lines<sup>5</sup> the industry claimed that if PHMSA moved forward with a relatively weak gathering line rule it would cost the industry 28 billion dollars. PHMSA finds itself in a no win situation based on cost benefit requirements that effectively make it impossible to move forward on needed rules without first going through years of costly information collection, (which will also be opposed by industry), to be able to complete a cost benefit analysis. How, under this cost-benefit requirement in the statute can PHMSA, knowing full well that the industry will challenge any such regulation, construct a rule that protects people from a known risk?

**Proposed fix for this problem—remove highlighted language**

**§ 60102. Purpose and general authority**

**(b) PRACTICABILITY AND SAFETY NEEDS STANDARDS.—**

**(1) IN GENERAL.—**A standard prescribed under subsection (a) shall be—

- (A) practicable; and
- (B) designed to meet the need for—
  - (i) gas pipeline safety, or safely transporting hazardous liquids, as appropriate; and
  - (ii) protecting the environment.

**(2) FACTORS FOR CONSIDERATION.—**When prescribing any standard under this section or section 60101(b), 60103, 60108, 60109, 60110, or 60113, the Secretary shall consider—

- (A) relevant available—
  - (i) gas pipeline safety information;
  - (ii) hazardous liquid pipeline safety information; and
  - (iii) environmental information;
- (B) the appropriateness of the standard for the particular type of pipeline transportation or facility;
- (C) the reasonableness of the standard;
- (D) based on a risk assessment, the reasonably identifiable or estimated benefits expected to result from implementation or compliance with the standard;
- (E) based on a risk assessment, the reasonably identifiable or estimated costs expected to result from implementation or compliance with the standard;
- (F) comments and information received from the public; and
- (G) the comments and recommendations of the Technical Pipeline Safety Standards Committee, the Technical Hazardous Liquid Pipeline Safety Standards Committee, or both, as appropriate.

**(3) RISK ASSESSMENT.—**In conducting a risk assessment referred to in subparagraphs (D) and (E) of paragraph (2), the Secretary shall—

- (A) identify the regulatory and nonregulatory options that the Secretary considered in prescribing a proposed standard;
- (B) identify the costs and benefits associated with the proposed standard;
- (C) include—
  - (i) an explanation of the reasons for the selection of the proposed standard in lieu of the other options identified; and
  - (ii) with respect to each of those other options, a brief explanation of the reasons that the Secretary did not select the option; and
- (D) identify technical data or other information upon which the risk assessment information and proposed standard is based.

**(4) REVIEW.—**

**(A) IN GENERAL.—**The Secretary shall—

- (i) submit any risk assessment information prepared under paragraph (3) of this subsection to the Technical Pipeline Safety Standards Committee, the Technical Hazardous Liquid Pipeline Safety Standards Committee, or both, as appropriate; and
- (ii) make that risk assessment information available to the general public.

**(B) PEER REVIEW PANELS.—**The committees referred to in subparagraph (A) shall serve as peer review panels to review risk assessment information prepared under this section. Not later than 90 days after receiving

<sup>5</sup>Joint Position Paper, API & GPA Midstream Assoc.—<https://www.regulations.gov/document?D=PHMSA-2016-0136-0045>

- risk assessment information for review pursuant to subparagraph (A), each committee that receives that risk assessment information shall prepare and submit to the Secretary a report that includes—
- (i) an evaluation of the merit of the data and methods used; and
  - (ii) any recommended options relating to that risk assessment information and the associated standard that the committee determines to be appropriate.
- (C) REVIEW BY SECRETARY.—Not later than 90 days after receiving a report submitted by a committee under subparagraph (B), the Secretary—
- (i) shall review the report;
  - (ii) shall provide a written response to the committee that is the author of the report concerning all significant peer review comments and recommended alternatives contained in the report; and
  - (iii) may revise the risk assessment and the proposed standard before promulgating the final standard.
- (5) SECRETARIAL DECISIONMAKING.—Except where otherwise required by statute, the Secretary shall propose or issue a standard under this Chapter 1 only upon a reasoned determination that the benefits of the intended standard justify its costs.
- (6) EXCEPTIONS FROM APPLICATION.—The requirements of subparagraphs (D) and (E) of paragraph (2) do not apply when—
- (A) the standard is the product of a negotiated rulemaking, or other rulemaking including the adoption of industry standards that receives no significant adverse comment within 60 days of notice in the Federal Register;
  - (B) based on a recommendation (in which three-fourths of the members voting concur) by the Technical Pipeline Safety Standards Committee, the Technical Hazardous Liquid Pipeline Safety Standards Committee, or both, as applicable, the Secretary waives the requirements; or
  - (C) the Secretary finds, pursuant to section 553(b)(3)(B) of title 5, United States Code, that notice and public procedure are not required.
- (7) REPORT.—Not later than March 31, 2000, the Secretary shall transmit to the Congress a report that—
- (A) describes the implementation of the risk assessment requirements of this section, including the extent to which those requirements have affected regulatory decisionmaking and pipeline safety; and
  - (B) includes any recommendations that the Secretary determines would make the risk assessment process conducted pursuant to the requirements under this chapter a more effective means of assessing the benefits and costs associated with alternative regulatory and nonregulatory options in prescribing standards under the Federal pipeline safety regulatory program under this chapter.

**§ 60115. Technical safety standards committees**

(a) ORGANIZATION.—The Technical Pipeline Safety Standards Committee and the Technical Hazardous Liquid Pipeline Safety Standards Committee are committees in the Department of Transportation. The committees referred to in the preceding sentence shall serve as peer review committees for carrying out this chapter. Peer reviews conducted by the committees shall be treated for purposes of all Federal laws relating to risk assessment and peer review (including laws that take effect after the date of the enactment of the Accountable Pipeline Safety and Partnership Act of 1996) as meeting any peer review requirements of such laws.

**(b) COMPOSITION AND APPOINTMENT**

(3) The members of each committee are appointed as follows:

- (C) Two of the individuals selected for each committee under paragraph (3)(C) of this subsection must have education, background, or experience in environmental protection or public safety. At least 1 of the individuals selected for each committee under paragraph (3)(C) shall have education, background, or experience in risk assessment and cost-benefit analysis. At least one individual selected for each committee under paragraph (3)(C) may not have a financial interest in the pipeline, petroleum, or natural gas industries.

**(c) COMMITTEE REPORTS ON PROPOSED STANDARDS.**

(1) The Secretary shall give to—

- (A) the Technical Pipeline Safety Standards Committee each standard proposed under this chapter for transporting gas and for gas pipeline facilities including the risk assessment information and other analyses supporting each proposed standard; and

- (B) the Technical Hazardous Liquid Pipeline Safety Standards Committee each standard proposed under this chapter for transporting hazardous liquid and for hazardous liquid pipeline facilities including the risk assessment information and other analyses supporting each proposed standard.
- (2) Not later than 90 days after receiving the proposed standard and supporting analyses, the appropriate committee shall prepare and submit to the Secretary a report on the technical feasibility, reasonableness, cost-effectiveness, and practicability of the proposed standard and include in the report recommended actions. The Secretary shall publish each report, including any recommended actions and minority views. The report if timely made is part of the proceeding for prescribing the standard. The Secretary is not bound by the conclusions of the committee. However, if the Secretary rejects the conclusions of the committee, the Secretary shall publish the reasons.
- (3) The Secretary may prescribe a standard after the end of the 90-day period.

#### Civil and Criminal Penalties under § 60122 and § 60123

**The concern:** PHMSA's penalty authority, and the agency's implementation of that authority, results in civil penalties that are economically insignificant to operators, are significantly smaller than those imposed by some states, and are disproportionate to the harm inflicted by pipeline failures. The "hearings" referenced in the statute regarding fines are normally secret, closed door affairs where no record of what has occurred is available to the public, even though often proposed fines are dramatically reduced after those hearings.

**Background:** From 2002 through 2018, the total amount of penalties collected by PHMSA in completed civil penalty cases (from violations discovered in inspections or following incidents) is just over \$56 million dollars combined.<sup>6</sup> In that same timeframe, the nearly eleven thousand reported pipeline incidents killed 249 people, injured 1041 and caused property damage approaching \$8 billion dollars.<sup>7</sup> Congress increased PHMSA's civil penalty authority in the 2011 reauthorization up to a cap of \$200,000 per violation and \$2 million dollars for a related series of violations. In spite of that increase, there has not been a corresponding increase in penalties proposed or collected, suggesting that PHMSA remains reluctant to impose penalties. In fact, some dramatic incidents, like the failure and explosion of a NiSource natural gas pipeline in Sissonville, WV (caused by corrosion) that destroyed a home and a section of Interstate highway, have resulted in no civil penalties at all.

Some states, notably California, have dramatically increased their use of civil penalties in the last decade, levying large fines like the one levied against PG&E following the San Bruno tragedy. The state regulator fined the utility \$1.6 billion dollars for violations related to the 2010 failure in San Bruno and has since fined the utility additional millions relating to subsequent recordkeeping, reporting and other violations. These large fines are possible because the California, and other state statutes, do not have a limit on penalties for a related series of violations. Each day in violation is subject to another penalty.

Fortunately it is very rare that a pipeline operator violates the regulations in a way that would be considered criminal. Our organization, the Pipeline Safety Trust, was born from one of those rare incidents where an operator's actions were proven to be so reckless as to kill members of the public and do uncounted environmental harm. In that case the U.S. Justice Department under President Bush did an outstanding job prosecuting that case, fining the company, and actually getting jail time for company employees. There have only been a handful of other incidents caused by such reckless behavior from pipeline companies since that case nearly 20 years ago, but it is important not to create barriers that make it difficult to hold companies accountable when they knowingly or recklessly ignore the laws meant to keep people safe. The current statute that applies to pipeline safety—Title 49 USC § 60123. Criminal Penalties—sets an unusually high bar for holding companies accountable for criminal behavior. We ask that you align the pipeline safety rules under PHMSA with the PHMSA rules for transportation of hazardous materials and change §60123 to adopt the "willfully or recklessly" language from the Hazmat statute in Title 49 USC § 5124. Criminal Penalties.

While PHMSA maintains considerable discretion over when and how much to fine a pipeline company, Congress should at least remove the barriers to adequate enforcement so the agency has the ability to send a message to a company when need

<sup>6</sup> [https://primis.phmsa.dot.gov/comm/reports/enforce/CivilPenalty\\_opid\\_0.html?nocache=6634#\\_TP\\_1\\_tab\\_3](https://primis.phmsa.dot.gov/comm/reports/enforce/CivilPenalty_opid_0.html?nocache=6634#_TP_1_tab_3) (from 11/29/2018).

<sup>7</sup> PHMSA, All Reported Incident Trends, (from 11/29/2018).

be. Congress should also make sure the hearing process where final fines are determined is open to the public, that notice is provided, and that associated non-security-sensitive information is also publicly available.

**Recommendations:** Eliminate the cap on civil penalties for “a related series of violations,” make the hearings public, amend the penalty amount for LNG facilities to a commensurate level with pipelines, and change the language for the standard for criminal penalties to align with the hazardous materials rules. Direct the Secretary to amend the agency’s regulations accordingly within 180 days.

#### Proposed Language to fix this problem

##### § 60122. Civil penalties

###### (a) GENERAL PENALTIES.—

- (1) A person that the Secretary of Transportation decides, after written notice and an opportunity for a hearing **[ for which public notice and access must be given ]**, has violated section 60114(b), 60114(d), or 60118(a) of this title or a regulation prescribed or order issued under this chapter is liable to the United States Government for a civil penalty of not more than \$200,000 for each violation. A separate violation occurs for each day the violation continues. **[The maximum civil penalty under this paragraph for a related series of violations is \$2,000,000.]**
- (2) A person violating a standard or order under section 60103 or 60111 of this title is liable to the Government for a civil penalty of not more than **[\$200,000] \$50,000** for each violation. A penalty under this paragraph may be imposed in addition to penalties imposed under paragraph (1) of this subsection.

##### § 60123. Criminal penalties

(a) GENERAL PENALTY.—A person knowingly **[,] and** willfully **[, or recklessly]** violating section 60114(b), 60118(a), or 60128 of this title or a regulation prescribed or order issued under this chapter shall be fined under title 18, imprisoned for not more than 5 years, or both.

#### The Need for a Mandamus Clause Under § 60121

**Goal:** Amend the federal Pipeline Safety Act to include a provision allowing actions for mandamus against the agency for failing to fulfill non-discretionary duties under the Act.

**Background:** In 2015, the City of San Francisco, after witnessing the terrible nearby tragedy in San Bruno, felt so strongly that PHMSA was failing to uphold the statutory requirements and Congressional mandates under the Pipeline Safety Act that they went to court to force PHMSA to do so. The Ninth Circuit Court of Appeals, without addressing the merits of the case, dismissed the case with an opinion holding that the Pipeline Safety Act does not provide the basis of a mandamus action to force PHMSA to carry out a duty under the Act.<sup>8</sup> The court relied, in part, on the absence of any explicit mandamus remedy in the Actions By Private Persons provision (49 USC 60121).

**Recommendation:** We believe that local and state governments, and others, should be able to ask the courts to carry out what Congress has required of it in the statutes. This is a common protection in many other laws. We urge Congress to include the following language in this year’s reauthorization to close this loophole.

Section 60121 of title 49, United States Code, is amended by adding at the end the following:

**“(e) MANDAMUS.—A person may bring a civil action in an appropriate district court of the United States to compel the Secretary to perform a nondiscretionary duty under this chapter that the Secretary has failed to perform.”**

#### The Need to Ensure that Unintended Releases are Prohibited Under § 60118

**Background:** As currently written the pipeline safety statutes do not expressly prohibit the release of gas or hazardous liquid from a pipeline. That is, as the Fifth Circuit found in a review of the PHMSA enforcement action following the 2013 spill from the ExxonMobil Pegasus pipeline in Mayflower, Arkansas, an operator can

<sup>8</sup>City and County of San Francisco v United States Department of Transportation, <https://www.transportation.gov/administrations/office-general-counsel/city-and-county-san-francisco-v-dot>

cause a reportable incident, or even a significant incident, without necessarily having violated a safety regulation. Because of the performance-based nature of many of the PHMSA rules it is possible for a pipeline operator to have a plan of operations, or an integrity management plan, that meets all of PHMSA's requirements, but still allows releases to happen. In other words under PHMSA rules an operator has to have a plan, but they don't necessarily have to have a plan that works to prevent releases. To close that loophole, we propose that language be added to require operators to avoid releases of gas or hazardous liquids in quantities that would make them reportable incidents under PHMSA regulations. We propose that this prohibition be inserted into 49 USC §60118, the general compliance and waiver section of the statutes. This section is subject to enforcement by PHMSA under §60122 or by the Attorney General under §60120. PHMSA would still maintain their discretion of how to deal with such releases, but this additional language would make it clear that the intent of the statute is to prohibit releases. This also aligns with all the major pipeline industry association's goal of "zero" incidents, and since so many of the PHMSA regulations have moved toward performance based requirements it would provide a good incentive to make sure performance means no releases.

**Proposal: Amend §60118. Compliance and waivers by adding at the end of  
(a) General Requirements the following**

**(5) not release gas or hazardous liquid from a pipeline facility in a quantity that would require the reporting of an incident or accident under regulations prescribed under this chapter.**

**Ensuring PHMSA Follows the Intent of Reporting Under §60102**

The existing statute on safety-related conditions reporting is found at 49 USC §60102(h) and requires the Secretary to promulgate rules requiring the reporting by an operator of any "condition that is a hazard to life, property, or the environment", and "safety related condition that causes or has caused a significant change or restriction in the operation of a pipeline facility." Reports are to be received within 5 working days after the operator establishes that such a condition exists.

PHMSA refers to these reports as the leading indicators it collects, as compared to incident reports, which are lagging indicators of safety. Collecting information about hazardous conditions that could cause incidents allows the agency to examine those conditions, determine their frequency and degree of risk, and perhaps to preemptively issue advisories or regulations to prevent recurring hazardous conditions from becoming a spate of pipeline facility failures. The agency describes them this way, acknowledging that the exemptions included in the implementing regulations reduce the value of these reports as a performance measure:

"Leading indicators are precursors that may lead to an accident or injury. They can be used to monitor the effectiveness of integrity programs and safety management systems before accidents, damages, or failures happen. As leading indicators focus on enhancing performance and reducing the probability of serious accidents, they can compensate for any shortcomings of lagging performance indicators. ... PHMSA regulations require operators to submit reports for certain conditions before a leak has actually occurred. However, the regulations include numerous exemptions from reporting. These exemptions reduce the value of SRCR as a performance measure."<sup>9</sup>

The regulations, found at 49 CFR part 192.23 and 195.55, rather than requiring reporting of the conditions the statute broadly describes as hazards to life, property or the environment, as well as safety related conditions that restrict the operation of a facility, instead identify a limited number of specific (although ill-defined) types of conditions that must be reported and then provides several exemptions from the requirement to report even that limited subset of conditions. For example, wholly exempted from reporting requirements are hazardous conditions that exist more than 200 meters from a building intended for human occupancy or outdoor place of assembly and those that are repaired or otherwise corrected before the report is due (5 days), as well as abnormal loading or movement of a pipeline from environmental or seismic causes unless the movement "impairs the serviceability of a pipeline."

<sup>9</sup>Leading Indicators—SRCR and IM Notifications <https://www.phmsa.dot.gov/data-and-statistics/pipeline/leading-indicators-srcr-and-im-notifications>

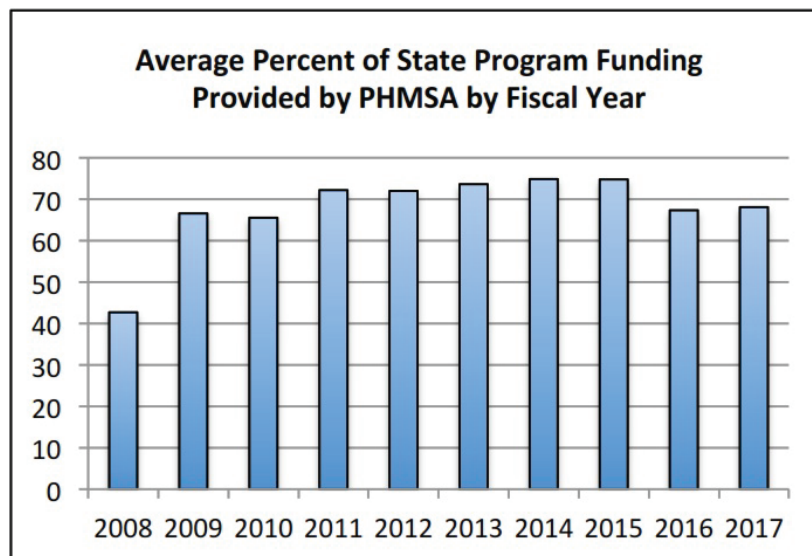
It is important to remember that the point of making reports of hazardous conditions that don't cause incidents is to allow the regulator to learn about their frequency and degree of risk so it can proactively respond to identified risks. The exemptions to reporting requirements prevent these reports from being useful to PHMSA for that purpose. A hazardous condition might happen to a pipeline in any location. Exempting reports of those conditions by their proximity to occupied buildings or if it is repaired before the report is due eliminates the usefulness of these reports in identifying either the frequency or the degree of hazard. If these reports are to be useful as leading indicators of safety risks, the reporting requirement must be consistent with, and as broad as the statutory language and Congress' original intent.

**Proposal: Amend 49 USC §60102 (h) Safety Condition Reports by adding at the end the following section**

**(3) Regulations prescribed by the Secretary under this section shall not exempt any conditions from reporting requirements if such an exemption would reduce or eliminate the value of these reports as leading indicators of safety or environmental hazards. The Secretary shall make the content of these reports available to the public on the agency website.**

**Clarify and Increase Appropriations Under § 60125**

State operated pipeline safety programs under agreements with PHMSA oversee over 80 percent of the pipeline mileage in the country. Under the Pipeline Safety Act PHMSA has the authority to reimburse states for up to 80 percent of the costs associated with this oversight, yet as the chart here shows PHMSA often falls well below this level putting state programs in a bind to do more with less, which does not often work out well when safety is concerned. Because of this reimbursement rate gap states also often pay their inspectors less than what PHMSA pays inspectors, which is less than what the pipeline industry pays its similar employees. This has led to a well-understood situation throughout the country where states train inspectors, that then leave the state to work for PHMSA or the industry. PHMSA has a similar problem with its own engineer inspectors being recruited by the pipeline industry who can pay more, thus leaving the state and federal regulators with the least trained workforce to oversee this country's pipeline safety.



This situation needs to be cured by ensuring that both state and federal inspectors can be hired at more competitive wage rates, and by Congress making sure ade-

quate funding is authorized and appropriated to cover these costs. Congress also needs to ensure that PHMSA is charging user fees as authorized in 49 USC §60301 at sufficient rates to cover these increased costs, along with all other pipeline functions of PHMSA.

In September 2018 the Secretary delivered to Congress a Nationwide Integrated Pipeline Safety Regulatory Database Feasibility Study.<sup>10</sup> In that study, wisely required by Congress in the 2016 Act, PHMSA pointed out that state programs are not required to provide PHMSA with comparable inspection and enforcement information even though PHMSA is paying states up to 80 percent of their costs for these functions. The lack of comparable data makes it impossible for PHMSA, Congress, or the public to know how state pipeline safety programs are performing, and more importantly to know how pipeline companies within those states are performing under the varying state regulatory regimes. As PHMSA points out in the study by requiring and collecting this information from states PHMSA could:

- “incentivize pipeline operators regulated by States to improve safety and avoid enforcement actions,”
- “allow PHMSA to analyze the most frequently violated aspects of pipeline safety regulations,”
- provide “regulators, both PHMSA and State, with knowledge of previous inspection and enforcement actions for a pipeline operator, regardless of the regulator conducting the inspection.”

For these reason we hope that Congress will authorize funding for PHMSA and the States to get this important information sharing exchange started. While in the study PHMSA painted a picture of the need for years to implement such a system, in reality there is no reason this could not be phased in over time with at least the basic information collected immediately about which companies are being inspected by each state and for what, and what types of enforcement actions are being taken against pipeline companies in each state and for violated what rules. This would not be a heavy lift, and would give PHMSA, Congress, and the public some idea of how well the States and more importantly pipeline companies operating within the states, are doing regarding pipeline safety. We are somewhat astounded to learn that PHMSA does not already have this information in exchange for funding state programs.

### **Require Minimum Standards for over 435,000 Miles of Natural Gas Gathering Lines**

PHMSA estimates there are over 435,000 miles of unregulated onshore gathering lines.<sup>11</sup> While these gas gathering lines are the same size and pressures as regulated gas transmission lines, and thereby have the same risk, they are not covered at all under PHMSA’s regulations. In PHMSA’s 2016 Notice of Proposed Rulemaking the agency proposed to begin regulating all rural (10 or fewer buildings intended for human occupancy nearby) gathering lines 8 inches or larger with some very basic regulations to start ensuring they are safe while collecting information about where they are actually located and what incidents they are causing. The PHMSA proposed regulations are actually less than what PHMSA already requires of offshore gathering lines, so in fact fish in the Gulf of Mexico are currently better protected than people living in rural areas of states such as Pennsylvania, West Virginia, or Texas. The PHMSA proposal for regulating these gathering lines is also considerable weaker than what the state pipeline safety programs asked for in 2010 when they passed a resolution<sup>12</sup> asking that PHMSA regulate these gathering line similarly to the way gas transmission lines are regulated. Unfortunately, the gathering pipeline industry howled, gnashed their teeth, and as we mentioned above threatened to use the cost-benefit requirements of the statute to kill the entire large natural gas rule that PHMSA has been working on since 2011. In response to the tantrum the gathering line industry threw, PHMSA ignored their state regulatory partners, ignored the threat to the public that live near rural gathering lines, and carved the gathering line part of the rule into it’s own separate rule, and has since recommended at this point to leave out the majority of gathering lines from the rule altogether. They then gave the industry time to develop an industry designed rec-

<sup>10</sup> <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/news/69271/reports-congress-09262018.pdf>

<sup>11</sup> PHMSA GPAC Presentation—Slide 14—<https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/standards-rulemaking/pipeline/70276/gas-gathering-lines-gpac-meeting-jan-8-9-2019-presentation-version-12-21-2019.pdf>

<sup>12</sup> NAPS Resolution 2010-2-AC2 <http://nebula.wsimg.com/215b293abe58ff21d6d2ad867ae864a3?AccessKeyId=8C483A6DA79FB79FC7FA&disposition=0&alloworigin=1>

ommended practice (standard), that both PHMSA and the industry hopes will be incorporated into PHMSA's rule as the new gathering regulation.

Contrary to the industry, there is of course good reason to extend better safety requirements to the hundreds of thousands of miles of currently unregulated gathering lines. Below are pictures of what a 10-inch gathering line did to a home near Midland, Texas last year and of the three-year-old girl who died in that pipeline failure. The exact cause of that failure is still unknown, (no one is investigating because it is unregulated), but clearly a 10-inch gathering pipeline about 20 feet from this home posed a risk. The common sense rules that PHMSA had included in their original proposal like corrosion control, damage prevention, public awareness, and leak surveys may help to prevent another tragedy like this, but under both PHMSA's and the industry's current proposal for these types of lines this pipeline would remain completely unregulated.



While API continues to push forward to create an industry designed recommended practice for PHMSA to incorporate as the gathering line rule, that effort is fraught with many fairness, completeness, and process issues. Last summer the state regulators (NAPSR) withdrew from that entire process writing in part:

“There are multiple reasons for withdrawal; however the primary reason is that NAPSR declines to endorse or to give any appearance of endorsement of the API Onshore Gas Gathering Line RP. . . . In addition, it appears that efforts to produce the RP draft had begun, without any notifications to the industry, the public, or to State or Federal regulators, some time before NAPSR and other outside stakeholders were invited to participate. These efforts infringe upon the process for fair and unbiased development of standards or other practice documents that are produced for industry and sometimes regulatory guidance.”

This is clearly a situation that could be improved by removal of the cost-benefits requirements that we talked about earlier to allow PHMSA to move forward on the rules they think are necessary, instead of the rules the industry will agree to. It is time to end this standoff on over 435,000 miles of risky gathering lines, and the easiest way to move forward on this issue immediately is for Congress to make clear in the statute that you want these rural lines regulated to some degree, which would then give PHMSA the ability and flexibility to do what they think is necessary. One way this could be accomplished is by changing the language in the statute as follows:

§ 60101. Definitions

(a) GENERAL.—In this chapter—

(21) “transporting gas”—

(A) means—

- (i) the gathering, transmission, or distribution of gas by pipeline, or the storage of gas, in interstate or foreign commerce; and
- (ii) the movement of gas through regulated gathering lines, **which shall include all onshore gathering lines operating above 20% SMYS.]**  
but

(B) does not include gathering gas (except through regulated gathering lines) in a rural area outside a populated area designated by the Secretary as a nonrural area.”



### **Needed Performance Standard for Hazardous Liquid Leak Detection, and Gas Transmission Rupture Detection.**

In the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, Congress asked the Secretary to provide a report within one year on the technical limitations of current leak detection systems, the practicability of developing standards for the capabilities of leak detection systems, and the costs and benefits of requiring pipeline operators to use such systems. PHMSA completed an in-depth study of leak detection systems in December of 2013.<sup>13</sup> That study found that for hazardous liquid pipelines:

- “The pipeline controller/control room identified a release occurred around 17 percent of the time.”
- Emergency responders or a member of the public were currently the most likely means of discovering a pipeline release.
- “There is no technical reason why several different leak detection methods cannot be implemented at the same time. In fact, a basic engineering robustness principle calls for at least two methods that rely on entirely separate physical principles.”
- “External sensors have the potential to deliver sensitivity and time to detection far ahead of any internal system.”

In 2010 PHMSA issued an ANPRM for hazardous liquid pipelines that asked in part whether PHMSA should “establish and/or adopt standards and procedures for minimum leak detection requirements for all pipelines.” Nearly eight and a half years after the close of the comment period on that ANPRM the proposed rule has still not been issued. Again, the slowness of the rulemaking process seems at odds with the public proclamations of concern and action.

In its hazardous liquid transmission pipeline integrity management rule, PHMSA requires that operators have a means to detect leaks, but there are no performance standards for such a system.<sup>14</sup> This is in contrast to the State of Alaska, for example, which requires that all crude oil transmission pipelines have a leak detection system capable of promptly detecting a leak of no more than 1 percent of daily throughput<sup>15</sup>, or the State of Washington that requires intrastate hazardous liquid pipelines have “leak detection systems must be capable of detecting an eight percent of maximum flow leak within fifteen minutes or less.”<sup>16</sup> PHMSA listed in the integrity management rule various criteria for operators to consider when selecting such a device. Again, such an approach is virtually unenforceable and not protective of important environmental assets such as rivers and lakes including those not considered High Consequence Areas.

The Enbridge spill in Michigan and the Chevron pipeline release near Salt Lake City, both nearly nine years ago, are examples of what can go wrong when a pipeline with a leak detection system has no performance standards for operations. In both those incidents the pipelines had leak detection systems as required by regulations, but neither system was capable of detecting and halting significant spills.

We ask that Congress direct PHMSA to issue performance standards for leak detection systems used by hazardous liquid pipeline operators by a date certain to prevent damage from future pipeline releases. Such standards need to clearly determine the size of leak the system is capable of detecting, and the time required for the system to issue an alarm in the event that a leak of that size should occur.

### **Requirements for Automated Remote Shut-off Valve Placement and Performance on Transmission Pipelines.**

**Natural Gas Transmission Pipelines**—Two decades ago Congress was debating a requirement for remote or automatic shutoff valves on natural gas pipelines in the wake of the Edison, NJ accident and the two and a half hours it took to shut off the flow of gas that fed the fireball due to the lack of a remotely controlled shut off valve. After the 2010 San Bruno tragedy where it took the pipeline operator over an hour and a half to drive to and close a manual valve the NTSB recommended that PHMSA “Amend Title 49 Code of Federal Regulations 192.935(c) to directly require that automatic shutoff valves or remote control valves in high consequence areas and in class 3 and 4 locations be installed and spaced at intervals that consider the factors listed in that regulation.”

<sup>13</sup> Leak Detection Study—DTPH56-11-D-000001 <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/technical-resources/pipeline/16691/leak-detection-study.pdf>

<sup>14</sup> See 49 CFR 195.452(i)(3).

<sup>15</sup> See 18 AAC 75.055(a)(1).

<sup>16</sup> See WAC 480-75-300

In the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 Congress asked the Secretary to consider within two years appropriate regulations to require the use of automatic or remote-controlled shut-off valves, or equivalent technology, on new or replaced pipelines. PHMSA did contract with Oak Ridge National Laboratory for a study of such valves. That study<sup>17</sup> concluded that “installing ASVs and RCVs in pipelines can be an effective strategy for mitigating potential consequences of unintended releases because decreasing the total volume of the release reduces overall impacts on the public and to the environment.”

In 2010 PHMSA issued an Advanced Notice of Proposed Rulemaking (ANPRM) for hazardous liquid pipelines, and then in 2011 PHMSA issued an ANPRM for gas transmission pipelines. Both ANPRMs made it clear that some change to the requirements for automatic or remote-controlled valves was being considered. Many stakeholder groups invested a significant amount of time responding to these ANPRMs. Unfortunately, years later, information regarding how PHMSA will deal with this issue in a future rulemaking has not been made available. The slowness of the rulemaking process regarding automatic and remote-controlled shut-off valves seems at odds with the public proclamations of concern and action.

**Hazardous Liquid Pipelines**—For liquid pipelines the foot dragging is even worse. In 1992, 1996, 2002, and 2006, Congress required OPS to “survey and assess the effectiveness of emergency flow restricting devices (including remote controlled valves . . . ) to minimize product releases”<sup>18</sup> with the first such requirement having a deadline in 1994 (24 years ago!). Following this analysis, Congress required OPS to “prescribe regulations on the circumstances under which an operator of a hazardous liquid pipeline facility must use an emergency flow restricting device.”<sup>19</sup>

OPS/PHMSA never issued a formal analysis on emergency flow restricting device (EFRD) effectiveness. Instead, in its hazardous liquid pipeline integrity management rule<sup>20</sup>, OPS rejected the comments of the NTSB, the US Environmental Protection Agency, the Lower Colorado River Authority, the City of Austin, and the Environmental Defense Fund and chose to leave EFRD decisions up to pipeline operators after listing in the rule various criteria for operators to consider. Such an approach to EFRD use does not appear to meet Congressional intent, partly because the approach is essentially unenforceable and not protective of important environmental assets such as rivers and lakes including those not considered High Consequence Areas.

Congress needs to reiterate its previous mandates to PHMSA on EFRD use on liquid pipelines and ensure they are followed to mitigate the extent of future pipeline releases.

### **Pipeline Segments that Cross Rivers are Not Sufficiently Protected by Existing Rules**

In July 2011, the ExxonMobil Silvertip Pipeline ruptured where it crosses the Yellowstone River near Laurel, Montana. The investigation into the cause of the failure revealed that the pipeline had been undermined by sustained floodwaters scouring the riverbed and exposing the pipeline, resulting in its failure along what had become an unsupported span submerged in the river. The rupture resulted in the release of more than 63,000 gallons of crude oil into the Yellowstone River, and approximately \$135 million dollars in property damage.

In the 2011 reauthorization act, Congress asked the Secretary to study hazardous liquid pipeline incidents at crossings of inland bodies of water with a width of at least 100 feet to determine if the depth of cover over the buried pipelines was a factor in any accidental release of hazardous liquids. If the Secretary’s study found that depth of cover was “a contributing factor,” then a review of the existing regulations and development of legislative recommendations was required.

The existing regulations require that newly constructed pipelines that cross inland water bodies with a width of at least 100 feet between high water marks be buried at least 48 inches beneath the riverbed. There is no requirement for maintaining any particular depth of cover. PHMSA concluded after its study that it required no additional legislative authority to address risks of hazardous liquid pipeline failures at major river crossings. We agree. While we feel there were major shortcomings in the study produced by PHMSA, and we believe that significant changes are necessary to the existing regulatory requirements for pipelines crossing

<sup>17</sup> [http://www.phmsa.dot.gov/pv\\_obj\\_cache/pv\\_obj\\_id\\_2C1A725B08C5F72F305689E943053A96232AB200/filename/Final%20Valve\\_Study.pdf](http://www.phmsa.dot.gov/pv_obj_cache/pv_obj_id_2C1A725B08C5F72F305689E943053A96232AB200/filename/Final%20Valve_Study.pdf)

<sup>18</sup> See 49 USC 60102(j)(1).

<sup>19</sup> See 49 USC 60102(j)(2).

<sup>20</sup> See 49 CFR 195.452(i)(4).

water bodies, we concur that PHMSA possesses adequate authority to improve the regulations. Whether such a rulemaking might ever be undertaken or could make it through the substantial bottleneck that the rulemakings underway since 2010 and 2011 have encountered are separate questions.

The river crossing study produced by PHMSA did succeed in highlighting several major issues with the existing rule and its implementation:

- PHMSA has no data set, geographic or otherwise, that identifies the 100 foot wide crossings that are subject to the four foot depth of cover rule at the time of construction, making enforcement of the rule dependent on having a PHMSA inspector on site at the time of construction at every crossing where the rule might apply.
- Rivers are dynamic systems, as the Silvertip failure graphically illustrates. The existing rule only applies at the time of construction, but does not require an operator to maintain four feet of cover over the lifetime of the pipeline.
- Many river systems narrower than 100 feet can dramatically scour their beds, putting perhaps thousands of other pipelines at risk of exposure and failure. The existing rule does not cover those crossings.
- The integrity management rules and their implementation and enforcement are not a sufficient substitute for an adequate rule prescribing operators' ongoing depth of cover obligations at all crossings. The Silvertip system underwent an integrity management inspection from PHMSA less than a month before its failure, yet there is no indication that the vulnerability of the line and the inadequacy of the operations plans were identified. Moreover, the IM rules apply to only 42 percent of liquid lines in the country. There may be many crossings that do not fall within the narrow definition of an "unusually sensitive area" and where IM rules would therefore not apply.

**Proposal:** Direct the Secretary to acquire and maintain a geographic data set capable of identifying pipelines crossing water bodies with a width of at least 100 feet between high water marks, and where the pipeline segment is within or could affect a high consequence area. Direct the Secretary to inventory the conditions of these crossings, determining the current depth of cover and the adequacy of each operator's assessment of the risk to a pipeline from flooding, erosion, riverbed scour, bed load movement or slope instability, and to incorporate the findings from that inventory in a report to Congress, together with a regulatory proposal to better protect pipelines (both liquid and gas) at water body crossings and high consequence areas from potential failures.

#### **Address Shortcomings in the Way PHMSA Defines and Addresses High Consequence Areas for Hazardous Liquid Pipelines**

The Integrity Management rules for hazardous liquid pipelines apply only to those 41 percent of HL lines that "could affect" a high consequence area if the line fails. There are two areas where we believe the agency has overly narrowly defined areas that should be subject to these rules: areas described by Congress as those crossing waters "where a substantial likelihood of commercial navigation exists," and those "unusually sensitive to environmental damage."

When Congress delegated the identification of those unusually sensitive high consequence areas to the Secretary of Transportation in 49 USC §60109, it was with this direction:

(b) AREAS TO BE INCLUDED AS UNUSUALLY SENSITIVE

- (1) locations near pipeline rights-of-way that are critical to drinking water, including intake locations for community water systems and critical sole source aquifer protection areas; and
- (2) locations near pipeline rights-of-way that have been identified as critical wetlands, riverine or estuarine systems, national parks, wilderness areas, wildlife preservation areas or refuges, wild and scenic rivers, or critical habitat areas for threatened and endangered species.

Unfortunately, in the adoption of the definitions for Unusually Sensitive Areas (USAs) the agency defined them much more narrowly than by using Congress's list. Instead, the agency developed a set of definitions for "ecological resource areas" that relies on little known, arcane non-governmental designations and completely excludes areas that Congress clearly expected would be included. For example, National Parks and designated wilderness areas are not necessarily USAs. National Wildlife refuges are not necessarily USAs. Wild and Scenic Rivers are not necessarily USAs. It is not even clear that critical habitat for threatened and endangered species designated under the Endangered Species Act is automatically a USA. Instead, to be a USA, an area must be, for example, a Ramsar site designated under The Convention on Wetlands of International Importance Especially as Waterfowl

Habitat, or otherwise defined by a ranking system developed by the Natural Heritage Programs, or the Nature Conservancy's Global Conservation Status Rank, or a Western Hemisphere Shorebird Reserve Network.

Once these very narrow definitions were adopted, PHMSA was to identify these areas and make those designations available to operators so they could identify which segments of their pipelines could affect these areas in a rupture. PHMSA has not updated these definitions, nor has it kept up with the geographic designation of these areas over the years since they were first identified. That means they have no way of inspecting operator compliance with HCA identification or operator assessment of risks to the environment in the case of a rupture.

The public is prevented from seeing PHMSA's efforts to map these USAs, so we have no way of knowing whether they have mapped even these very narrowly defined areas correctly.

The Pipeline Safety Trust asked for an expansion of these areas and therefore the number of pipelines covered by the integrity management rules when PHMSA asked for input on changing the Hazardous Liquid safety rules in 2010. That rule, finalized in 2016 under the Obama Administration, was withdrawn and has yet to be re-issued, so we have no way of knowing whether any changes will be made in that rule, assuming it is again finalized and released.

The issue with identification of commercially navigable waters, administratively defined to include "a waterway where a substantial likelihood of commercial navigation exists" is not one of definition, because those are the exact words Congress directed the agency to use. Rather it is in the implementation of that definition, where PHMSA uses a definition of commercial navigation that limits its application to major shipping routes for freighters, excluding commercial fisheries, charter boats, tribal commercial or subsistence fisheries, or any other small scale commercial use. This results in a nonsensical designation of small strips of coastal waters, large rivers and harbors being identified as HCAs, rather than the entire body of water.

### **Proposal**

Require GAO do a study of whether PHMSA's definitions and identification of various Unusually Sensitive Areas (USAs) and commercially navigable waterways for Hazardous Liquid pipelines are consistent with other environmental regulations, are sufficiently inclusive to meet the original intent of Congress, and whether PHMSA currently has and maintains GIS data layers that allow the agency and the industry to know where such HCA boundaries are, and whether PHMSA uses this GIS data to ensure pipeline operators are accurately identifying HCAs and the risks to them from the potential failure of a pipeline. This would most likely have identified the problem with the majority of the Great Lakes being left out of HCA definitions. Congress took action to mandate the designation of the Great Lakes as HCAs in the last reauthorization, but the agency has yet to issue implementing regulations for that designation.

Congress should also mandate that HCA designations be made public on the National Pipeline Mapping System so state and local governments, and the public can ensure that PHMSA and pipeline companies are correctly designating such important areas.

### **Methane Emissions from Pipelines—**

It is well understood that natural gas pipelines of all types leak, and that during repairs large quantities of gas is vented into the atmosphere. This is allowed under the current regulations, because up until recently the value of the gas was thought to be insignificant, and the effects of the methane being released was not understood. Over the past decade many studies, from a variety of sources, have shown that the amount of gas lost through ongoing leaks costs consumers hundreds of millions of dollars, and that the methane in those leaks has a much more dramatic effect on climate change than carbon dioxide. Unfortunately PHMSA has paid little attention to these issues, has no clear emission reporting requirements, and their own incident reporting thresholds (no report required until 3 million cubic feet of gas released) exempts many large releases from even being reported.

For those reasons it is essential that Congress requires PHMSA to do the following:

- Require companies to use the best technology available to capture natural gas when making pipeline repairs.
- Require companies to use the best technology to look for leaks
- Require companies to adequately invest in replacement and repair programs for known types of leaky pipelines.

- Change the reporting requirements for gas incidents to a more realistic level to track how much is actually being released. We would suggest changing the reporting threshold from 3 million cubic feet to 50,000 cubic feet (50,000 cubic feet is equivalent to the average monthly use in 9–10 homes<sup>21</sup>).

### Hopeful Initiatives in the Works

**Safety Management Systems (SMS)**—In 2015, based on a recommendation from the NTSB after nearly a million gallons of oil was spilled into the Kalamazoo River in Michigan, the pipeline industry created a recommended practice (API RP1173)<sup>22</sup> to help pipeline companies implement a continuous improvement Safety Management System. This promising voluntary effort ought to help companies reduce the number of incidents and near misses they have, and help create a stronger safety culture within companies so safety really is the first priority, not just a slogan. We have already seen some companies embrace this fully, and for those companies the change is real. So we support this effort, and believe it can have lasting impacts, but only if companies embrace it, which is always the rub with voluntary practices. We were surprised after the recent tragedy in Massachusetts to hear how many of the gas companies in that state had not yet moved forward on SMS, and only did so after a tragedy and the strong urging of the state regulator. We think it is still too early to have to make SMS a required regulation, but Congress should certainly ask the industry to show proof that companies are adopting this voluntarily, and what the measurable outcomes are. If the rate of adoption and implementation is too slow then PHMSA or Congress may need to step in with regulatory requirements, or enforcement incentives, to ensure that all companies embrace this valuable system, and not just the companies who do truly put safety first.

**Voluntary Information Sharing (VIS)**—For the past two years PHMSA has been working with the Voluntary Information Sharing Working Group to produce a report for the Secretary outlining the benefits of setting up a Voluntary Information Sharing system for pipeline safety similar to what the FAA has for airline safety. The Pipeline Safety Trust supports the creation of a Pipeline Safety VIS, but the draft report we saw lacked many important details about initial and ongoing costs, how and who will pay for this system, how and who information would be shared with, how the program's effectiveness will be assessed, and how the important participation by non-regulatory, non-industry participants will be guaranteed. For these reasons we hope you will seek greater clarity on the above questions before moving forward with complete authorization for such a VIS. One option might be to provide PHMSA with the authority and the funding to create the multi-stakeholder VIS Executive Committee as envisioned in the report, and then task that group to flesh out the details to Congress' satisfaction before greater funding is provided.

I thank you for the opportunity to provide this testimony today, and as always I am available to answer any additional questions you might have and to work with you further as the reauthorization of the national pipeline safety program continues.

Mr. LIPINSKI. Thank you, Mr. Weimer.

Now, Mr. Black, you are recognized.

Mr. BLACK. Thank you, Mr. Chairman, Ranking Member.

I am Andy Black, president and CEO of the Association of Oil Pipe Lines. AOPL represents the owners and operators of liquid pipelines transporting crude oil; refined products like gasoline, diesel fuel, jet fuel, and home heating oil; and industrial products like propane and ethane. We have over 55 member companies transporting over 21 billion barrels of crude oil and petroleum products annually over a 215,000-mile network of pipelines.

Pipelines are the safest way to deliver the energy Americans use and need every day. And no other mode of transportation is as safe for the American people or the environment as pipelines. And pipelines are getting safer. Over the last 5 years, pipeline operators have reduced the number of pipeline incidents impacting people

<sup>21</sup>The American Gas Association, Natural Gas: The Facts <https://www.aga.org/globalassets/2019-natural-gas-facts-sts-updated.pdf>

<sup>22</sup><https://pipelinesms.org/wp-content/uploads/2018/08/API-RP-1173-Pipeline-Safety-Management-Systems.pdf>

and the environment by 20 percent. This is Government data, publicly available from PHMSA.

PHMSA data also shows pipeline incidents caused by incorrect operation impacting people and the environment are down 38 percent over the last 5 years. And pipeline incidents caused by corrosion, cracking, or weld failure impacting people and the environment are down 35 percent over that period.

The pipeline industry and AOPL member companies work hard to improve pipeline safety. We are transparent about where we are doing well and where we can do better.

The statistics I shared come from the performance report we develop jointly each year with the American Petroleum Institute analyzing pipeline safety data. We use this analysis to guide our pipeline safety programs, focusing on key safety issues. Through this safety effort, the pipeline industry has addressed key safety recommendations from Congress, the NTSB, PHMSA, and issues identified through analysis of pipeline safety data.

Recent safety accomplishments include developing new best practices for finding and fixing cracking in pipelines, managing leak detection programs, responding to pipeline emergencies, and applying safety management systems to pipelines. Industry also just released an updated best practice for inspecting and performing maintenance on pipelines utilizing the latest inspection technologies and analytical techniques.

Harnessing technology to advance pipeline safety is a theme we are pursuing across industry and we urge Congress to adopt as well. For example, high-tech tools can now scan pipelines like an MRI or an ultrasound at the doctor's office. Pipeline operators have the opportunity to find more issues early, perform preventative maintenance, and keep pipelines operating safely.

The problem is, Federal regulations can't keep pace with fast-moving technology innovations. Outdated PHMSA regulations sometimes conflict with the latest knowledge and techniques.

Congress can do more to allow PHMSA and pipeline operators to improve safety by harnessing technology and innovations, such as: creating a pilot program to test pipeline safety technologies and approaches, as the Administrator alluded to earlier; authorizing a voluntary information-sharing program, encouraging joint stakeholder problem-solving; requiring regular PHMSA and stakeholder review of pipeline safety research and development advances; and encouraging voluntary discovery, disclosure, correction, and prevention of pipeline safety violations.

Next, protecting pipeline safety and the environment from attacks on pipelines is a top reauthorization priority for AOPL. Pipelines are the safest way to deliver the energy we use every day. However, pipelines are industrial facilities we must respect to keep them operating safely.

Recent attacks on pipelines, either by turning valves in ways that threaten ruptures or shooting guns directly at pipelines or blowtorching holes in pipelines, are dangerous. Members of the public, surrounding communities, and the environment could easily be put in danger by attacks on pipeline facilities that could result in a spill or an explosion.

Congress should deter future attacks against pipeline facilities by closing loopholes in the scope of criminal liability placed in Federal pipeline safety laws by previous Congresses on a bipartisan basis.

AOPL also recommends improving PHMSA programs and regulations by easing hiring and retention of PHMSA inspectors, improving due process and enforcement proceedings, tailoring requirements to pipeline operating status, adjusting incident reporting requirements for inflation, and incorporating the latest best practices on inspection repair and tank maintenance.

I look forward to answering any of your questions on these proposals or improving pipeline safety performance record or the actions the pipeline industry is taking to improve pipeline safety further. Thank you again for the opportunity for us to testify.

[Mr. Black's prepared statement follows:]

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**Prepared Statement of Andrew J. Black, President and CEO, Association of Oil Pipe Lines**

Mr. Chairman, Ranking Member, Members of the Subcommittee, thank you for inviting me here today to testify on pipeline safety. My name is Andy Black and I am President and CEO of the Association of Oil Pipe Lines (AOPL). AOPL represents liquids pipeline owners and operators transporting crude oil, petroleum products, like gasoline, diesel, jet fuel, and home heating oil, and industrial products, like propane and ethane. We have over 50 member companies which deliver over 21 billion barrels of crude oil and petroleum products annually over a 215,000 mile network of pipelines. AOPL members transport more than 97 percent of interstate barrel-miles.

Pipelines are the safest way to deliver the liquid energy we all need and use every day. Pipelines deliver crude oil and petroleum products to their destination safely 99.999 percent of the time. No other mode of transportation is as safe for the American people or the environment as pipelines.

Pipelines are getting safer. Over the last 5 years, pipeline operators have reduced the number of liquids pipeline incidents impacting people or the environment by 20 percent. This is government data publicly available from the U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA data also shows pipeline incidents impacting people or the environment caused by incorrect operation are down 38 percent over the last 5 years, and pipeline incidents impacting people or the environment caused by corrosion, cracking or weld failures are down 35 percent over the last 5 years.

The pipeline industry and AOPL member companies work hard to improve pipeline safety. We are transparent about where we are doing well and where we can do better. The statistics I just shared come from the performance report we develop jointly each year with the American Petroleum Institute analyzing pipeline safety data. We use this analysis to guide our industry-wide safety programs focusing on key pipeline safety issues.

Through this strategic effort the pipeline industry has addressed key safety recommendations from Congress, the U.S. National Transportation Safety Board, PHMSA and issues identified through analysis of pipeline safety data. Recent safety accomplishments include developing new best practices for finding and fixing cracking in pipelines, managing leak detection programs, responding to pipeline emergencies and applying safety management systems to pipelines. Industry has also just released an updated best practice for inspecting and performing maintenance on pipelines utilizing the latest inspection technologies and analytical techniques.

Harnessing technology to advance pipeline safety is a theme we are pursuing across industry and recommend Congress adopt as well. For example, hi-tech tools can now scan pipelines like an MRI or ultrasound at the doctor's office. Pipeline operators have the opportunity to find issues early, perform maintenance and keep pipelines operating safely. The problem is federal regulations can't keep pace with fast-moving technology innovations. In fact, outdated PHMSA regulations sometimes conflict with the latest knowledge and techniques.

Congress can do more to allow PHMSA and pipeline operators to improve safety by pilot testing innovations and learn from shared pipeline safety insights.

AOPL proposals for Congress to harness technology and innovation to improve pipeline safety include:

- creating a pilot program to test cutting edge pipeline safety technologies and newly developed best practices
- authorizing a Voluntary Information Sharing program encouraging joint stakeholder problem solving
- requiring regular PHMSA and stakeholder review of pipeline safety research and development advances
- encouraging voluntary discovery, disclosure, correction and prevention of pipeline safety violations

A top reauthorization priority for AOPL is protecting public safety and the environment from attacks on pipelines. Pipelines are the safest way to deliver the energy American families and consumers use every day. However, pipelines are industrial facilities we must respect to keep them operating safely. Recent attacks on pipeline, either by turning valves in ways that threaten ruptures or shooting guns or blowtorching holes into pipelines are dangerous. Members of the public, surrounding communities and the environment are put in danger by attacks on pipeline facilities that could easily result in a spill or explosion. Congress should deter future attacks against pipeline facilities by closing loopholes in the scope and criminal liability placed in current federal pipeline safety law by previous Congresses on a bipartisan basis.

AOPL also recommends Congress improve PHMSA programs and regulations by:

- helping PHMSA hire and retain expert pipeline inspectors
- improving due process in PHMSA enforcement proceedings
- tailoring pipeline requirements to operating status
- adjusting PHMSA incident reporting requirements for inflation
- incorporating the latest best practices on inspections, repair and tank maintenance

AOPL believes there is a great amount of work that Congress can do to improve pipeline safety on a non-partisan or bi-partisan basis as has been custom in prior reauthorization bills. Several of AOPL's proposals would specifically engage stakeholders from all ends of the political spectrum in the joint effort of pipeline safety. The VIS program is supported by labor unions, environmental groups, pipeline safety advocates, PHMSA and pipeline operators. Further attention to R&D would come in a forum which includes environmental groups, pipeline safety advocates, federal and state regulators and industry. Our proposal to help PHMSA hire and retain pipeline inspectors would be paid for by industry itself through user fees. All of these proposals are designed to improve pipeline safety.

Again, thank you for inviting me here today. I look forward to answering any of your questions on these proposals, our pipeline safety performance record, or the actions the pipeline industry is taking to improve pipeline safety.

Mr. LIPINSKI. Thank you, Mr. Black.

I now recognize Chief Eggleston for 5 minutes.

Chief EGGLESTON. Good afternoon, Chairman Lipinski and Congressman Balderson and members of the subcommittee. I am Dan Eggleston, president and chairman of the board of the International Association of Fire Chiefs and the fire chief for Albemarle County, Virginia, Department of Fire and Rescue. Thank you for the opportunity to testify at today's hearing on pipeline safety.

The U.S. transports approximately two-thirds of its domestic energy supplies on more than 2.7 million miles of pipeline. In our opinion, the use of pipelines is one of the safest ways to transport hazardous materials across the Nation.

However, when accidents occur, local emergency responders must be prepared, trained, and equipped to respond. During a pipeline incident, the local fire department will be required to stabilize the incident, notify the community, and, if necessary, evacuate affected homes and businesses, extinguish any resulting fires, and prevent the loss of life and property.

An effective response requires pipeline operators, local fire departments, and other State and local officials to work together. This cooperation cannot start on the day of the incident. It requires



the public and the private sector to train and plan, exercise, and equip themselves well before the event.

As the committee examines the reauthorization of pipeline safety programs at the Pipeline and Hazardous Materials Safety Administration, the IAFC recommends the committee consider the following three actions:

First, promote coordination between local authorities and pipeline operators.

Local emergency planning committees are designed to bring together industry officials, local emergency responders, and other affected stakeholders to plan and exercise for potential pipeline and hazardous material incidents. Currently, there are over 3,000 known LEPCs around the Nation. However, it is unclear how many of these LEPCs are active.

The IAFC is using a grant from the PHMSA Community Safety—Emergency Planning, Response, and Outreach program to bolster LEPCs. We are bringing first responders, emergency managers, and pipeline operators together to coordinate emergency response plans.

Also, we are educating citizens about where pipelines are located in their communities and what steps they should take in case of an incident. The IAFC will use its work to develop best practices for LEPCs to prepare for pipeline and other hazardous material incidents.

We ask that you authorize and fund PHMSA's Community Safety Grant. We also ask that you continue to authorize and fund the \$1.5 million for PHMSA's Pipeline Safety Information Grant. This program can serve as a useful tool for helping fire departments learn about pipelines in their jurisdictions and prepare for any incidents.

The number-two recommendation is to support training and exercise programs that bring stakeholders together.

Pipeline operators and local emergency responders should develop emergency response plans well ahead of time. They should also meet regularly and exercise them throughout the year, not just once. The IAFC is working with pipeline operators, such as Trans-Canada, to help communities develop pipeline annexes to their emergency operations plans. We use a whole community approach to bring together pipeline operators, emergency responders, and community leaders. In some cases, we have hosted public townhall meetings. We then follow up with table-top exercises to test these plans and revise them as necessary.

Training is also extremely important. At the moment, 60 percent of fire departments providing hazmat response have not formally trained all of their personnel. The IAFC has developed resources like the Rural Guide for Rail and Pipeline Incident Response and the Rail Emergency and Pipeline Incident Information Visor Cards to help fire departments train and respond to an incident.

We also have developed online training in cooperation with the National Association of State Fire Marshals. This online training is especially important for those departments such as volunteer departments in rural areas. The IAFC recommends that local fire chiefs reach out to pipeline operators and take advantage of training opportunities that pipeline operators may provide.

And the third and final recommendation is to support funding for equipment and staffing for local fire departments.

Fire departments, especially in rural areas, may not have the equipment needed to respond to a complex incident like a pipeline rupture. The Assistance to Firefighters Grant program provides matching funds for local fire departments to purchase the necessary equipment for pipeline incidents and other hazards. The SAFER Grant program provides matching grants for both hiring firefighters and recruiting volunteers to help fire departments staff the necessary staff in communities bordering pipelines.

We appreciate the continued support from Congress that is shown in these programs and ask you to fund these at \$405 million each in fiscal year 2020.

Thank you again for the opportunity to testify at today's hearing. Pipeline leaks and ruptures are very complex incidents. They require planning, training, and having the right tools and equipment in place to save lives and property. America's fire chiefs look forward to working with the community and the committee to reauthorize the pipeline safety programs.

I look forward to answering any questions that you may have. Thank you.

[Chief Eggleston's prepared statement follows:]

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**Prepared Statement of Fire Chief Dan Eggleston, EFO, CFO, CMO, President and Chairman of the Board, International Association of Fire Chiefs**

Good morning, Chairman Lipinski, Ranking Member Crawford and distinguished members of the subcommittee. I am Dan Eggleston, President and Chairman of the Board of the International Association of Fire Chiefs (IAFC), and fire chief of the Albemarle County, Virginia, Department of Fire Rescue. I appreciate the opportunity to testify at today's hearing on pipeline safety: the review of existing mandates and the examination of additional safety needs.

The IAFC represents the leadership of over 1.1 million firefighters and emergency responders. IAFC members are the world's leading experts in firefighting, emergency medical services, terrorism response, hazardous materials (hazmat) incidents, wildland fire suppression, natural disasters, search and rescue, and public-safety policy. Since 1873, the IAFC has provided a forum for its members to exchange ideas, develop best practices, participate in executive training and discover diverse products and services available to first responders.

**THE FIRE AND EMERGENCY SERVICE COMMUNITY**

America's fire and emergency services are the only organized group of American citizens that is locally-situated, staffed, trained, and equipped to respond to all types of emergencies. There are approximately 1.1 million men and women in the fire and emergency service—approximately 300,000 career firefighters and 800,000 volunteer firefighters—serving in over 30,000 fire departments around the nation. They are trained to respond to all hazards ranging from earthquakes, hurricanes, tornadoes and floods to acts of terrorism, hazardous materials incidents, technical rescues, fires and medical emergencies.

The fire service protects America's critical infrastructure—the electrical grid, interstate highways, railroads, pipelines, petroleum and chemical facilities—and is, in fact, even considered part of the critical infrastructure. The fire service protects federal buildings, including military installations, and interstate commerce. No passenger airliner takes off from a runway or train leaves a station that is not protected by a fire department.

**PIPELINE SAFETY AND EMERGENCY RESPONSE**

The United States transports approximately two-thirds of its domestic energy supplies in more than 2.7 million miles of pipelines. This system includes gathering pipelines that collect natural gas from wells and ship it to production areas; trans-

mission pipelines that transport liquids across the nation; and distribution and service pipelines that transport hazardous materials from transmission lines to residential, commercial and industrial customers. Overall, the use of pipelines is one of the safest ways to transport hazardous materials across the nation.

However, accidents do occur, and local first responders need to be prepared and trained to respond. During a pipeline rupture or leak, the local fire department will be required to stabilize the situation; notify and evacuate the community (if necessary); extinguish any resulting fires; and prevent life and property loss. It is important that the pipeline operators, local fire departments, and other appropriate state and local officials cooperate and quickly resolve the incident. This cooperation cannot start on the day of the incident. The public and private sectors must work together ahead of time to plan, train, exercise and equip themselves to respond to a potential incident.

#### PLANNING

It is important that all local authorities, including the local fire department leadership, work with regional pipeline operators to prepare for a rupture or leak. The pipeline operator must develop an emergency response plan that addresses the potential hazards that may occur and how to respond to these incidents in an effective manner. The local fire department will have to identify where pipelines are in their community and familiarize themselves with the possible risks of the hazardous materials carried by the pipelines. The fire department also will have to preplan how it will respond to an incident, including by working with emergency managers and local law enforcement about how to carry out an evacuation order; working with local hospitals and public health officials in case of a mass casualty incident; and local elected officials and the news media to ensure that the appropriate messaging is given to the public. A public-private partnership is critical to ensuring that a response goes smoothly in case of a pipeline incident.

Local Emergency Planning Committees (LEPC) are designed to bring industry officials, local emergency responders, and other affected stakeholders together to plan and exercise for potential pipeline incidents. LEPCs were created as part of the Emergency Planning and Community Right-to-Know Act (P.L. 99-499) as part of a national framework to plan for chemical accidents. LEPCs are supposed to identify chemical hazards in their communities, develop emergency response plans, and maintain a community focus on chemical safety, risk reduction, and accident prevention.

According to the U.S. Environmental Protection Agency (EPA), there are more than 3,000 known LEPCs around the nation.<sup>1</sup> Unfortunately, it is not clear how many of these LEPCs are active and carrying out their missions. When the EPA surveyed the LEPCs in 2008, it sent out 2,357 surveys and received 939 responses, an approximately 40 percent return rate.<sup>2</sup> One of the IAFC's missions is to work with community LEPCs and local pipeline operators to make sure that communities are prepared in case of a pipeline emergencies.

The IAFC is using a Community Safety-Emergency Planning Response and Outreach (CS-EPRO) grant from the Pipeline and Hazardous Materials Safety Administration's (PHMSA) to bolster LEPCs and help them prepare for incidents in their communities. The CS-EPRO grant is designed to prepare communities for hazardous materials incidents, including those involving pipelines, and focuses particularly on rural areas. The local fire department, local emergency planners and LEPC will play a leading role in this effort.

The CS-EPRO grant will help local first responders, emergency planners and LEPCs learn about the hazardous materials in their jurisdictions and communicate with industry to coordinate response plans. This will ultimately allow local leaders to better communicate information about these hazards to the public. The effort also will educate citizens living in rural communities about nearby pipelines, rail lines and facilities. In addition, it will help local citizens prepare to take action in the case of a pipeline incident, including what to do in case of an evacuation order. The IAFC intends to use these grants to develop best practices that other LEPCs can use to prepare their communities for pipeline and other hazardous materials incidents.

The IAFC also is working with the American Petroleum Institute (API) to update its recommended practice for Public Awareness Programs for Pipeline Operators (API Recommended Practice 1162). We have found that the pipeline industry, espe-

<sup>1</sup> U.S. Environmental Protection Agency, *2008 Nationwide Survey of Local Emergency Planning Committees*, 4.

<sup>2</sup> Ibid.

cially the operators of major transmission lines are proactive in conducting outreach to local communities to help them learn about the risks relating to their pipelines. Many companies will provide training for fire departments that have transmission pipelines in their jurisdictions. The IAFC recommends that fire chiefs reach out to the pipeline operators in their jurisdictions to identify local pipelines, learn about the risks involved with them, and utilize “train the trainer” and other educational programs that the pipeline operators provide.

#### TRAINING/EXERCISES

Once pipeline response plans are developed, they cannot just be left on a shelf. The local pipeline operators, local fire departments, emergency planners, and other LEPC members must engage in regular exercises to prepare for a possible incident. Training and exercises identify weaknesses in plans and help communities revise them. More importantly, they bring the emergency response officials together ahead of time to coordinate operations before an actual incident. Pipeline response operations can be complicated and it is important that all of the participants have met before the day of the disaster.

According to the National Fire Protection Association, 60 percent of fire departments provide hazmat response, but have not formally trained their personnel for these operations.<sup>3</sup> The IAFC has developed the following resources to help fire departments train and respond to pipeline incidents:

- The Rural Guide for Rail and the Pipeline Incident Guide offer guidance on working with key players to create or revise emergency response plans for rail and pipeline emergencies.
- The Rail Emergency and Pipeline Incident Information Visor Cards provide a place to record important information during pipeline incidents.

The IAFC also worked with the National Association of State Fire Marshals to develop online training to help local fire departments familiarize themselves with the basics of pipeline emergency response. Online training is especially important for rural volunteer fire departments, which may not be able to send personnel to in-person training that is out of the region.

In addition, the IAFC is cooperating with TransCanada to help communities prepare for pipeline incidents. We have worked with jurisdictions to develop a pipeline annex to their emergency operations plans. This planning uses a whole community approach to bring together the pipeline operators, first responders and other community leaders. In some cases, we have hosted town hall meetings to better inform the public about the location of a pipeline and the potential effects of an incident. After six months have passed, we return to the communities to conduct tabletop exercises that allow communities to test their plans and improve their preparedness for an actual incident. Overall, we have implemented this program in 16 communities since the program started in 2015.

#### EQUIPMENT

Fire departments need to make sure that they are equipped to handle a pipeline incident. However, they must make sure that they purchase equipment consistent with their emergency operations plan. In many jurisdictions, a fire department may be focused on mitigating the risk of a pipeline incident, like treating casualties or putting out resulting structure fires. They may be able to rely upon a regional hazmat response team, the pipeline operator’s emergency response team or a neighboring metropolitan fire department to resolve the actual leak or rupture. The Federal Emergency Management Agency’s Assistance to Firefighters Grant (AFG) program and the Staffing for Adequate Fire and Emergency Response (SAFER) grant program provide matching grants for equipment, training and staffing to help local fire departments prepare for incidents like pipeline ruptures.

#### CONCLUSION

I thank you for the opportunity to testify at today’s hearing on pipeline safety. As the committee examines reauthorizing the pipeline safety programs at PHMSA, the IAFC recommends that the committee consider the following actions:

- 1.) **Promote coordination between local authorities and pipeline operators.** Local coordination is key to preventing pipeline incidents and having successful responses in the cases of incidents. Local fire chiefs should work with the pipeline operators to identify where pipelines are and what risks they entail. The fire department should access both online and in-person training

<sup>3</sup>National Fire Protection Association, *Fourth Needs Assessment of The U.S. Fire Service*, viii.

that is provided by the pipeline operator. LEPCs provide tools for bringing the whole community together to prepare for a pipeline or other hazmat incident. Unfortunately, we do not have a clear picture of how many LEPCs are functioning effectively or how many need help.

We ask that Congress appropriate funding for the Pipeline Safety Information Grants to Communities, so that they might serve as a useful tool for re-energizing LEPCs. The IAFC recommends removing the prohibition on non-profit groups, because a community non-profit group might be used to administer a LEPC and there are some volunteer fire departments across the country that are classified as non-profit organizations.

- 2.) **Support training and exercise programs that bring stakeholders together.** It is important that the local officials and the pipeline operators do not meet for the first time at the incident scene. They must develop emergency response plans ahead of time and share information on how they will operate in an emergency. Also, local officials and pipeline operators must meet and exercise these plans on an annual basis. These plans are not just bureaucratic documents; they set out important lifesaving operations in a moment of crisis.

PHMSA's Community Safety grants provide an incentive for public and private stakeholders to meet, develop emergency response plans and exercise them. The IAFC also supports both public and private efforts to develop online and in-person training for fire departments to prepare for pipeline incidents. We also ask that Congress appropriate funding for these programs in Fiscal Year (FY) 2020.

- 3.) **Support funding for equipment and training for local fire departments.** Fire departments, especially in rural jurisdictions, may not have the equipment or training to respond to a complex incident like a pipeline rupture. Federal programs, like the AFG and SAFER program, provide matching grants to help local jurisdictions prepare for all hazards, including pipeline incidents. We appreciate Congress funding these programs at \$350 million each in FY 2019, and ask that you increase funding for the programs to \$405 million for each program in FY 2020.

The IAFC looks forward to working with the subcommittee as it reauthorizes PHMSA's pipeline safety programs. On behalf of America's fire chiefs, I thank you for hosting today's hearing and examining issues to ensure the safety of the nation's pipeline infrastructure. I look forward to answering any questions that you may have.

Mr. LIPINSKI. Thank you, Chief.

Next, I will recognize for 5 minutes Mr. Kuprewicz.

Mr. KUPREWICZ. Thank you for the opportunity to comment today.

Mr. LIPINSKI. Make sure your microphone is on.

Mr. KUPREWICZ. I am president of Accufacts Incorporated, based in Redmond, Washington.

I have authored numerous papers on pipeline safety, with the most recent a March 22, 2019, paper for West Whiteland Township, Pennsylvania, identifying possible intrastate transmission pipeline safety regulations for that State. My provided CV should easily demonstrate my qualifications to testify today on additional pipeline safety needs.

Since my time is limited, I will focus on six major regulatory issues that I believe should be addressed by Congress in any PHMSA reauthorization effort.

Item 1: Congress should eliminate the unique requirement that PHMSA show that, for any proposed new safety regulations, the safety benefits outweigh the cost. Pipeline events are usually low-probability, very high-consequence events that are not adequately or appropriately captured using cost-benefit analysis.

Recent pipeline failures have demonstrated how quickly the consequences of pipeline failure can easily exceed multiple billions,

with a “B,” of dollars. Much-needed improvements in pipeline safety regulation are being delayed or prevented by this unique requirement, and Congress should remove this obstructive approach from PHMSA’s safety rulemaking obligation.

Major item 2: Additional liquid and gas transmission integrity management regulation improvements are needed. Initial performance-based pipeline safety regulations for transmission pipelines promulgated in the early 2000s, known as TIMP 1, are not working as intended. My experience investigating too many recent liquid and gas pipeline ruptures indicates that TIMP 1 needs serious improvement.

After a considerable number of years of effort, PHMSA developed suggested transmission integrity management improvements, often identified as TIMP 2, for transmission pipelines, both liquid and gas. These suggested improved regulations have been stalled for the last couple of years.

Major item 3: Current area classification regulations for gas transmission pipeline safety regulations should not be changed or weakened. Given the current weakness and incomplete state of TIMP regulations, I cannot recommend nor suggest weakening current safety factors established by existing area classification regulations for gas transmission pipelines.

Major item 4: Gas gathering minimum pipeline safety regulation needs serious improvement. Recent gathering pipeline rupture failures clearly demonstrate that minimum Federal pipeline safety regulations are clearly not working in this area and improvements are warranted.

I recommend the regulatory efforts in this area focus on three issues: simplifying the definition of “gas gathering”; two, requiring all gathering lines to meet minimum standards meant to protect the public; three, follow similar integrity management processes related to TIMP 2 PHMSA-developed improvements.

Gas gathering pipeline rupture failure dynamics and actual impact areas are the same as that of gas transmission pipelines. The public should thus also be made aware of gas gathering infrastructure in their area, protected by basic, commonsense standards, such as one-call mapping requirements, integrity management, and, yes, emergency response, that already apply to similar risk transmission pipelines.

Major item 5: Release detection regulation should focus on two efforts—one, remote rapid rupture release identification; and, two, leak releases which require different technical approaches than that for ruptures. Remote release detection is a reasonable idea and should be advanced by new, prudent pipeline safety regulations that encourage the application and development of such efforts.

And, lastly, major item 6: Regulations for the placement of remote-operated main line valving for liquid and gas pipelines are badly needed. Valves play an important safety role in the event of pipeline rupture. It is time to incorporate clear requirements for such valving into pipeline safety regulations.

Thank you for your time today, and I look forward to being of some assistance to the committee in the future. Thank you.

[Mr. Kuprewicz’s prepared statement follows:]

**Prepared Statement of Richard B. Kuprewicz, President, Accufacts Inc.**

Thank you for the opportunity to comment today. My name is Richard B. Kuprewicz and I am president of Accufacts Inc., a consulting firm based at 8151 164th Avenue, NE, Redmond, WA 98052. I specialize in all aspects of hydrocarbon-based pipelines. I have over forty-five years of investigative experience and am a chemical engineer with additional skills in process safety management, developed from many years of operational and engineering experience. I have consulted for various local, state, and federal agencies, NGOs, the public, and pipeline industry members on pipeline regulation, operation, and design, with particular emphasis on operation in unusually sensitive areas of high population density or environmental sensitivity.

I have authored numerous papers on pipeline safety with the most recent a March 22, 2019 paper for West Whiteland Township, PA identifying possible liquid intra-state transmission pipeline safety regulations for that state. That recent paper takes on special significance as it relates to a series of highly volatile liquid transmission pipelines called Mariner East, designed to move liquid ethane, propane, and butane across the state, through many highly populated and sensitive areas. My provided CV should easily demonstrate my qualification to testify today on additional pipeline safety needs.

Since my time is limited today, I will focus on six major pipeline regulatory issues that I believe should be addressed by Congress in any PHMSA reauthorization effort:

- 1) *Congress should eliminate the unique requirement that PHMSA show that for any proposed new pipeline safety regulation the safety benefits outweigh the costs.*

Pipeline events are usually low probability, very high consequence events that are not adequately or appropriately captured using cost/benefit analysis. I have observed that such an unwarranted hurdle requirement seriously delays the implementation of many important and prudent pipeline safety regulations. Recent pipeline failures have demonstrated how quickly the consequence of pipeline failure can easily exceed multiple billions of dollars. Much needed improvements in pipeline safety regulation are being delayed or prevented, and Congress should remove this obstructive approach from PHMSA's safety rulemaking obligations.

- 2) *Additional Liquid and Gas Transmission Integrity Management Regulation improvements are needed.*

Initial performance-based transmission pipeline safety regulations for liquid and gas transmission pipelines promulgated in the early 2000's (known as TIMP 1) are not working as intended. My experience investigating too many recent liquid and gas pipeline ruptures in high consequence areas, indicates that TIMP 1 for liquid or gas transmission pipelines needs serious improvement. After a considerable number of years of effort, PHMSA developed, along with industry, state regulators, and various public parties, suggested transmission integrity management improvements often identified as TIMP 2 for liquid and gas transmission pipelines. These suggested improved regulations have been stalled for the last couple of years. Integrity management safety approaches are just not that complicated. In 2016, I provided written public comments on the TIMP 2 PHMSA proposed rules, part of the larger rule makings on hazardous liquid and gas transmission pipelines that started back in 2010 and 2011.<sup>1</sup>

I see the need for more prescriptive minimum pipeline safety regulations in several important TIMP regulatory areas as follows:

- a. the general location of HCAs should be conveyed to the public,
- b. require improved threat and anomaly reporting performance metrics to assist in transparency and to monitor TIMP performance and effectiveness,
- c. clarify in regulation the current strengths and weakness of the four allowed assessment methods codified in regulation for pipeline threats, which consists of:
  - i. internal inspection tool or tools (usually ILI),
  - ii. pressure test (i.e., hydrotesting),
  - iii. external corrosion direct assessment for liquid, direct assessment for external, internal, or stress corrosion cracking for gas pipelines,

<sup>1</sup>Richard B. Kuprewicz, "Pipeline Safety Comments on the Notice of Proposed Rulemaking Liquid Pipeline Integrity Management ("IM"), Docket No. PHMSA-2010-229 ("NPRM")," January 7, 2016, and "Comments on the Notice of Proposed Rulemaking Pipeline Safety: Safety of Gas Transmission and Gathering Pipelines, Docket No. PHMSA-2011-0023 ("NPRM")," July 7, 2016.

iv. other technology that can provide an equivalent understanding of the condition.

d. add “shall” wording to establish minimum management of change (“MOC”) process requirements, an important component of TIMP.

Given too many pipeline ruptures where the operator claimed failure to know their pipeline was in a high consequence area (“HCA”), regulators and the public clearly have a right to know and verify what an operator is identifying as an HCA (they really aren’t that difficult to determine and are not secret). If this important first step in TIMP isn’t correct, there are most likely other shortcomings in a company’s TIMP approach.

PHMSA also needs to take advantage of new software technology to require that operators report the location of important required anomalies needing mitigation, using pipeline mapping technology that can quickly help to identify pipeline systemic threats, well before they go to rupture failure, a primary object of TIMP.

The broad misinformation by many in the industry (either due to lack of experience or intentional deception) concerning the strengths and weaknesses of each of the four assessment methods listed in TIMP regulations needs to be addressed by identifying the assessment method’s ability to handle the wide spectrum of threats that may be on a pipeline segment. No one assessment method can handle the wide spectrum of threats that might be on a pipeline segment. For example, I have investigated too many transmission pipeline ruptures that occurred following ILLI inspections, that on further investigation are proving to be downright embarrassing to the pipeline operators as well as disastrous and expensive.

Recent pipeline tragedies have also clearly confirmed that too many pipeline organizations are failing to incorporate important checks and balances to assure any change in process or equipment has been prudently engineered and evaluated before becoming operational. Management of Change (MOC) prescriptive steps should be added into law driven by the use of a “shall” requirement. MOC should not rely on industry practices or creative interpretation of such practices.

Note that I am not advising abandoning all performance-based approaches. For example, the distribution integrity management program (or “DIMP”) regulations require the reporting of important performance metrics that assist independent analysis and transparency for regulators and the public. DIMP reporting is vastly superior to current TIMP 1 regulation reporting requirements in assisting in performance measurement and monitoring. Many gas distribution companies and some state regulators have recognized the benefits of DIMP tracking utilizing newer advanced leak mapping technology which exceeds annual reporting requirements to PHMSA and to states that are not utilizing such software tools in data analysis that improves regulatory efficiency. While not required in federal pipeline safety regulation, advanced software leak mapping technology is definitely helping analyze and identify possible distribution pipeline systemic integrity hot spots, or threats, that need more timely attention. PHMSA need to advance TIMP by requiring such mapping by anomaly type and condition.

*3) Current area classification regulations for gas transmission pipeline safety regulations should not be changed or weakened.*

Given the current weaknesses and incomplete state of TIMP regulations, demonstrated by the pipeline ruptures in HCAS under TIMP 1, I cannot recommend nor suggest weakening current safety factors established by existing area classification regulations for gas transmission pipelines. Suggestions to weaken or remove area classification requirements have wisely met with much resistance from the public and state regulators. I advise that no change be made in area classification regulations until:

- a. new TIMP 2 regulations have been properly incorporated into regulation,
- b. these new regulations take effect, and
- c. such new regulations demonstrate a track record that they are working, which will take some time.

Weakening of gas area classification rules and their associated required additional safety margins is imprudent and premature, especially given the current failings associated with TIMP 1 regulations.

*4) Gas gathering minimum pipeline safety regulation needs serious improvement.*

Given the rapid growth in gas gathering pipeline mileage across America from shale gas development, and recent gathering pipeline rupture failures, minimum federal pipeline regulations are clearly not working in this area, and improvements are warranted. I recommend that regulatory efforts focus on:

- a. simplifying and clarifying the definition of a gas gathering pipeline, and



- b. requiring all gathering lines to meet minimum standards meant to protect the public such as One Call participation, line markers, operational and emergency response plans, hazardous leak repairs, incident investigation, etc.
- c. following similar integrity management processes related to TIMP 2 PHMSA developed improvements.

Gas gathering pipeline rupture failure dynamics and actual impact areas are the same as that of gas transmission pipelines. The public should thus also be made aware of gas gathering infrastructure in their area, protected by basic common sense standards that already apply to similar risk transmission pipelines, and inclusion of Integrity management (IM) efforts to avoid rupture.

- 5) *Release detection regulation should focus on two efforts: (1) remote rapid rupture release identification, and (2) leak releases which require different technical approaches than that for ruptures.*

I have observed that probably no other subject has generated more confusion, frustration, and concern across all parties, than the subject of remote release detection for pipelines. Remote release detection is a reasonable idea and it is going to take some effort as it is a severe technical challenge in many systems to make such systems reliable. Development of such technology, whether for rupture or leak detection, is advanced by prudent pipeline safety regulations that encourage the application and development of such efforts. Such regulation is similar to efforts encouraging initial pipeline ILI use and advancement, which started some forty years ago.

Because of factors such as pipeline inventory and thermodynamics, pressure drop is not a timely nor reliable method of release detection in an operating pipeline, even for pipeline ruptures, the high rate releases from large pipeline openings caused by pipe fracture mechanics. I thus recommend in the area of release detection that regulation focus on two approaches: (1) rapid remote detection and alarm for pipeline ruptures based on properly determined transient flow dynamics, and (2) on leak detection for lower rate releases that also are not going to be captured by pressure loss. Leaks may not be as dangerous as ruptures, but nevertheless can be dangerous or damaging to the environment. PHMSA needs to pursue the different technical approaches needed for the remote identification of ruptures and leaks.

- 6) *Regulations for the placement of remote operated mainline valving for liquid and gas pipelines are badly needed.*

Many parties fail to understand the complications associated with developing regulations for mainline valving on pipelines. I recommend that mainline valve regulation advancements focus on both timely action and response for both liquid and gas pipelines, as such valves play an important safety role in the event of pipeline rupture.

#### CONCLUSIONS

Congress needs to remove the unique cost/benefit analysis hurdle imposed on PHMSA preventing this agency from quickly promulgating sound pipeline safety regulation. PHMSA also needs to advance the TIMP 2 regulations in which years of technical effort, analysis, and discussion have already been invested. TIMP 2 regulatory changes represent reasonable compromise that will improve the performance and effectiveness of pipeline safety regulations for both transmission and gas gathering. The test for such possible regulations will lie in whether proposed rulemaking in these areas remains simple and easy to understand, as well as enforceable. We are talking in most cases about steel tubes, so technically, safety rulemaking should also be fairly simple and concise. If the regulations are becoming too long or complex, I highly recommend that the regulatory effort needs to be reevaluated as other agendas may be afoot. TIMP safety process are just not that complicated.

Let's also not lose sight of the fact that PHMSA has done good work in other technical areas, such as the research related to crack threat assessments from vintage Low Frequency Electric Resistance Welded, or LF-ERW pipe. PHMSA's research efforts in vintage ERW crack research and assessment helped to publicly identify proper assessment/engineering approaches that should be used to avoid pipeline rupture from this category of threats with a long history of failure as ruptures. PHMSA's efforts in this area have helped spread the word on what, until this research effort was completed, was a pipeline risk clearly understood by only a handful of subject matter experts in this pipeline field.

PHMSA's promulgation of DIMP regulations is an excellent example of marrying prescriptive with performance metrics. that have improved distribution pipeline safety. Advancements in computer software mapping/reporting technology not readily available during original passage of DIMP regulation, now permit efficiency in evaluating pipeline systems in an attempt to improve pipeline safety via certain gas

leak performance measures. Such mapping approaches are now at the level where it should be included in TIMP 2 as well as DIMP pipeline safety regulations.

Thank you for your time today.

Mr. LIPINSKI. Thank you, Mr. Kuprewicz.

The Chair now recognizes Mr. Rorick for 5 minutes.

Mr. RORICK. Thank you, Chairman Lipinski, Ranking Member Crawford, and members of the subcommittee, for having API here today to speak about our industry's proactive efforts in pipeline safety and our priorities for pipeline safety reauthorization.

My name is Robin Rorick, and I serve as the vice president for midstream and industry operations at the American Petroleum Institute, the trade association of more than 620 members representing all segments of the oil and natural gas industry. In my role, I am responsible for issues related to the gathering, processing, storage, and transportation of oil and natural gas and their products.

Pipelines remain one of the safest ways to deliver energy we use every day. However, to reach our industry's goal of zero incidents and ensure consumer access to clean, abundant, and affordable energy, it is imperative that the regulatory environment and the Pipeline and Hazardous Materials Safety Administration be positioned to meet current and future pipeline safety challenges.

Although we recognize and appreciate PHMSA's efforts to implement past congressional mandates, more work needs to be done to institute practical and performance-based regulations for pipelines and LNG facilities.

Thus, as Congress considers the reauthorization of PHMSA and other safety programs, we encourage strong consideration of industry priorities that will maximize our investment in people, technology, and safety culture to effectively advance safety.

Right now, the United States leads the world in the production of oil and natural gas and, at the same time, is the global leader in the reduction of carbon dioxide emissions, which are at their lowest levels in 25 years. In the past decade, we have transitioned from an era of energy scarcity and dependence to one of energy abundance and security.

This energy renaissance has helped create greater job opportunities for American workers, bolster U.S. manufacturing, strengthen our economy, and enhance our national security interests. And it has helped U.S. families save on their energy bills. In the last decade, U.S. healthcare spending grew by over 70 percent and education spending increased over 50 percent while household energy spending declined by 10 percent.

Pipelines are critical to ensuring that consumers keep feeling the benefits of our Nation's vast energy resources, and they are one of the most efficient ways to safely deliver the energy that Americans use every day.

It is estimated that increased investment in our Nation's energy infrastructure, including pipelines, is a \$1 trillion proposition that could support 1 million jobs per year through 2035 and add up to \$100 billion to our GDP annually.

Protecting the public and the environment is the top priority for pipeline and LNG operators and a central component to the design, construction, operation, and maintenance of energy infrastructure.

Ultimately, the development of a comprehensive safety system must continue to be the product of a shared commitment from our regulator, industry, and other stakeholders. Together, we can effectively focus on appropriate prevention and response practices through an application of regulations, leading industry practices, the use of technology, and alignment on research priorities.

At the direction of Congress, PHMSA has been working on the development of several significant safety regulations for oil and natural gas pipelines. API and its members appreciate the emphasis PHMSA has placed on addressing congressional mandates and NTSB recommendations through these rulemakings.

Based on the robust, transparent, and balanced Pipeline Advisory Committee process that these regulations underwent, we support the publication of the final gas transmission and hazardous liquid rule, the last of which was recently submitted to OMB.

However, for other remaining significant safety rulemakings, including repair criteria for oil pipelines, class locations for gas pipelines, and LNG facilities safety, we would ask that PHMSA not lose sight of the importance of a holistic, performance-based regulatory approach that maximizes the industry's ability to use the latest advances in new technologies and engineering techniques to manage safety risks.

As an industry, we are committed to safety in all of our operations and consider regulations a base from which to build. API continues to develop and revise critical standards following the accreditation process of the American National Standards Institute, or ANSI.

One in particular, API Recommended Practice 1173 on pipeline safety management systems, is critical in providing a foundational framework for managing complex operations. Through strong commitment and aggressive implementation of this voluntary program, RP 1173 has helped many of our pipeline operators effectively manage risk, promote best practices, continuously improve safety and performance, and build a strong organizational safety culture.

Let me close by once more emphasizing that the oil and natural gas industry is committed to promoting safety in all of its operations while it strives to ensure that American families and businesses can safely and efficiently access affordable and reliable energy.

Again, thank you for the opportunity to appear before you today, and I am happy to answer any questions that you may have.

[Mr. Rorick's prepared statement follows:]

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**Prepared Statement of Robin Rorick, Vice President of Midstream and Industry Operations, American Petroleum Institute**

Good morning Chairman Lipinski, Ranking Member Crawford, and Members of the Subcommittee. Thank you for the opportunity to speak today about our industry's proactive efforts in pipeline safety and our priorities for Pipeline Safety Reauthorization. Pipelines remain one of the safest ways to deliver the energy we use every day. However, to maintain this strong safety record and ensure consumer access to clean, abundant, and affordable energy, it is imperative that the regulatory environment and the Pipeline and Hazardous Materials Safety Administration (PHMSA) address current and future safety challenges. We recognize and appreciate PHMSA's efforts to implement past Congressional mandates, but more work needs to be done to institute practical and performance-based regulations. Thus, as Con-

gress considers the reauthorization of PHMSA and other safety programs, we encourage strong consideration of industry priorities that will maximize our investment in people, technology, and safety culture to effectively advance pipeline safety.

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 Vice President 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.

#### ENERGY SECURITY

The United States leads the world in the production of oil and natural gas<sup>1</sup> and, at the same time, is the global leader in the reduction of carbon dioxide emissions, which are at their lowest levels in a generation.<sup>2</sup> Additionally, carbon dioxide emissions from electricity generation have declined 26 percent since 2005 and are near their lowest levels in 30 years; more than 60 percent of the decrease in power generation-related CO<sub>2</sub> emissions since 2005 was due to fuel switching to natural gas.<sup>3</sup> 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 five million barrels per day of oil. As of this month, the U.S. is producing a record 12 million barrels per day<sup>4</sup>, more than doubling production. The Permian Basin in West Texas is a perfect example of this growth in production, pumping out over four million barrels of oil and natural gas liquids per day—quadruple its production from just eight years ago. 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 nine million barrels per day in November.<sup>5</sup> A similar transformation has occurred in natural gas production, which has grown by over 50 percent since 2008.<sup>6</sup> 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. While in the last decade healthcare and education spending has increased by over 70 and 50 percent, respectively, household energy spending in America has declined by 10 percent.

The benefits of the oil and natural gas we produce here in the U.S. also provide benefits far beyond our borders. None of this would be possible were it not for the midstream sector of our industry, which ensures that we can get 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 and above ground storage facilities, pipelines, railcars, trucks, ships, and marine vessels. 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 2017 study found that the U.S. will need up to \$1.3 trillion in energy infrastructure investment through 2035. This investment, on average, will annually support up to 1 million jobs and add up to \$100 billion to GDP.<sup>7</sup> 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.

#### COMMITMENT TO PIPELINE SAFETY

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 ele-

<sup>1</sup> <https://www.eia.gov/beta/international/>

<sup>2</sup> U.S. DOE, Energy Information Administration, Monthly Energy Review March 2019.

<sup>3</sup> <https://www.eia.gov/environment/emissions/carbon/>

<sup>4</sup> U.S. DOE, Energy Information Administration, Weekly U.S. Field Production of Crude Oil

<sup>5</sup> U.S. DOE, Energy Information Administration, Weekly Petroleum Status Report

<sup>6</sup> U.S. DOE, Energy Information Administration, U.S. Natural Gas Marketed Production (monthly)

<sup>7</sup> ICF, "U.S. Oil and Gas Infrastructure Investment Through 2035" (2017)

ment involves the federal and state governments, which provide the safety regulations for the industry. Next is the contribution of the industry trade associations that, with the help of other stakeholders, help to develop industry guidance, recommendations and best practices. The third key entity are individual companies, who make the commitment to develop and implement effective safety programs. While each of these functions are 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 greater than 99 percent of oil, natural gas and their products reach their destination without incident, pipeline companies are striving to address the remaining fraction of a percent to reach our shared industry-wide goal of zero incidents. The industry's ability to continually advance the safety of oil and natural gas pipeline operations is based on three critical elements: (1) people, (2) technology and (3) safety culture. Each of these is intertwined with the others to create a comprehensive and cohesive safety program. Education and training are constantly provided to industry employees to ensure they can operate the latest and greatest technologies. Similarly, employees are committed to developing a culture of safety that is continually assessed and improved. This three-pronged approach is designed first and foremost to prevent an incident from ever happening, but also ensures that the industry is prepared for any incident and can effectively respond in the rare instance that an incident occurs.

Although API and its members appreciate the emphasis PHMSA has placed recently 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 use the latest advances in new technologies and techniques to manage pipeline safety risk. To that end, API and its members strongly supported the collaborative approach to review and finalize regulations through the Advisory Committee process and encourages PHMSA to publish the transmission proposals as voted on by the Gas Pipeline Advisory Committee (GPAC) and Liquid Pipeline Advisory Committees (LPAC) and expeditiously carry out a similar review process for a class location and repair criteria rulemaking. The Advisory Committee process is a transparent and balanced forum that has demonstrated the ability to build consensus around complex regulatory issues, including the pending gas and liquid transmission pipeline safety regulations. This forum will also be an ideal forum for the gathering lines discussions that are scheduled to begin later this year. Recently, several organizations that participated in the GPAC meetings sent a letter to Secretary of Transportation Elaine Chao to express our support for quickly publishing a final gas transmission rule to address outstanding congressional mandates. The signatories included multiple industry associations as well as public safety advocacy groups. Such consensus would not have been possible prior to the GPAC discussions.

#### THE IMPORTANCE OF API PIPELINE STANDARDS

Safety is a core value of the oil and natural gas industry. 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. Since 1924, API has been the leader in developing voluntary, consensus-based, 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 U.S., these standards are referenced more than 650 times in federal regulations, covering multiple government agencies, including PHMSA. Additionally, 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.<sup>8</sup>

Despite the current lack of 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 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. Safety culture must be organically strengthened from within an organization, which is why a voluntary regime is so important for the industry's implementation of SMS. As U.S. production continues to grow and pipeline capacity does as well 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, regulator and broader stakeholder 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, and continuous testing to verify the skills of qualified employees is a critical effort of operators. API has also 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 management system framework for operators to ensure they are prepared to respond to any event in a coordinated way with both our government and first responder partners in an efficient manner. 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.

#### PIPELINE SAFETY REAUTHORIZATION PRIORITIES

As stated earlier, to improve upon our strong safety record and reach our goal of zero pipeline incidents, it is imperative that the regulatory environment and PHMSA be positioned to meet current and future safety challenges. As such, there are three priority areas where PHMSA reauthorization can support the shared objective of industry and the regulating agency in advancing pipeline safety.

##### *Recognizing the Importance of Innovation and Technology*

Within the current Administration, DOT and PHMSA have expressed a renewed interest in innovation and technology. The leadership of both organizations continue to place a great deal of importance on the use of inspection technology as a “transformative” tool to advance the oil and natural gas pipeline industry's safety performance and address remaining pipeline incidents. Thus it is imperative that PHMSA's regulations do not hamper an operator's ability to address potential problems through the application of the most innovative technology, critical engineering assessment processes and fit-for-purpose repair criteria based on data and sound engineering principles. Specifically, operators are required to conduct timely assessments of pipeline integrity, and that may often be done effectively and efficiently

<sup>8</sup> OGP Report No. 426, Regulators' Use of Standards, March 2010

with a new technology. However, companies may have a hesitation to do so, given the burdensome approval process in the use of alternative safety technology. Establishing clear parameters and deadlines associated with PHMSA's review, notification, and approvals of alternative technology will help provide more certainty in the process and allow operators to utilize the latest cutting-edge technologies to further pipeline safety.

With this in mind, 50-year old regulations that only allow for new technologies to be used one rulemaking at a time must be updated. While those regulations reflected the technology and best thinking available at the time of adoption, they have not kept pace with advances in pipeline safety technology and modern engineering practices. To PHMSA's credit, over the last couple of decades, they have attempted to pursue performance-based regulations versus prescriptive ones—in other words, an approach that focuses on the desired outcomes (in this case, fewer incidents) rather than prescriptive processes or procedures (i.e., operators must inspect their pipe so many times every few years). 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 to focus on the desired outcome of fewer incidents. 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.

In addition, PHMSA should be commended for considering updates to the class location change regulations. With today's processes and technologies, pipeline safety can be managed effectively through data-driven inspection and maintenance, instead of the arbitrary pipe replacements required by the current class location change regulations. These unnecessary replacement projects can disrupt natural gas service and require the release of up to 800 million standard cubic feet of natural gas every year, which is equivalent to the annual natural gas use of over 12,000 homes. And each year the class location change regulations divert hundreds of millions of dollars towards replacing less than 75 miles of pipe. There are much more productive ways to expend these substantial resources. For example, for the same cost of replacing 75 miles of pipe, we could instead assess 25,000 miles with in-line inspection tools that truly pose a risk of impacting people or the environment.

#### *Modernizing PHMSA and Regulations*

As PHMSA and the energy industry together continue to drive toward our shared goal of zero pipeline incidents, a modernized regulator with the necessary tools, well-trained staff, and streamlined programs can bring needed certainty and consistency into the regulatory and oversight process. While the oil and natural gas industry continues to work proactively, through our standards development process and collaboration with regulators and other stakeholders, to achieve our goal of zero incidents, there are additional regulatory reforms that we believe will help to further enhance pipeline safety.

A performance-based approach recognizes that there is great variability throughout the industry and that a one-size-fits-all approach could prevent the development of more company or operations specific engineering assessment options that most effectively manage and advance safety. For example, currently 49 Code of Federal Regulations (CFR) Part 193 safety regulations for liquefied natural gas (LNG) facilities does not provide a risk-based alternative for establishing important maintenance programs. The regulations were originally written decades ago to capture siting, design, construction, operation and maintenance for small-scale peak shaving type facilities. The current regulation is not sufficiently scalable or flexible to address a broader spectrum of operations including large-scale export facilities. This could result in unnecessary, costly and overly burdensome prescriptive requirements that do not enhance safety on these facilities. PHMSA should consider risk-based/process safety management options in Part 193 rulemaking that allows operators to prioritize critical resources to take a risk-informed integrity management approach for inspection and corrosion control at LNG facilities.

There are other areas where outdated regulations also drive inefficiencies and resource allocation to less impactful safety priorities. For example, in current regulations, pipeline operators are required to report pipeline incidents if they meet certain conditions, including a clean-up cost of \$50,000 or higher. However, PHMSA set this threshold in 1984 and has not updated it for inflation since. As such, incident reporting based on the current day costs would allow pipeline operators to better utilize and allocate resources, toward more significant incidents. Keeping pace, Congress should require PHMSA to adjust its incident reporting dollar threshold for inflation.

Additionally, there are more than 650 API standards referenced in Federal regulation. As these standards are improved through the American National Standards Institute (ANSI)-accredited process at a minimum of every 5 years, Federal regulations often are unable to be updated in a timely manner to reflect these important leading practices within the industry. Currently, 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 more timely and frequent review process that can use the existing rulemaking processes to incorporate by reference the latest edition or the first edition of appropriate standards.

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 have driven our industry to invest in furthering in-line inspection tool detection, ultimately preventing incidents 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. 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.

Lastly, the oil and natural gas industry strives to have well trained and qualified PHMSA pipeline inspectors to help bring certainty and consistency to the inspection and enforcement of federal pipeline safety regulations. However, pipeline inspectors frequently come into PHMSA with limited pipeline safety experience, and those that already have or gain experience often depart the agency to pursue more lucrative opportunities. As such, similar to other agency hiring authority for specialty positions, the ability to compensate pipeline inspectors at market rates through PHMSA's use of Schedule A employees with streamlined hiring and flexible pay levels would enhance PHMSA's ability to attract and retain expert pipeline inspectors.

#### *Protecting Pipelines, People and Environment*

Pipelines are one of the safest ways to deliver the energy American families and consumers use every day. However, recent illegal attacks on oil and natural gas infrastructure have pointed out the need for increased awareness of pipeline infrastructure, the impacts of damage to it, and the importance of enforcement against perpetrators of such attacks. Illegal disruptions to critical infrastructure can have impacts on local populations, the environment and the economy. While we respect the first amendment right to free speech and peaceful protest, an individual that criminally trespasses onto private property to then endanger their own life, the life of others and the environment is conducting an act that goes beyond the right provided by the first amendment.

For the safety of the people and the environment, Congress should do more to prevent threats to critical infrastructure like oil and natural gas pipelines by strengthening the breadth of protections around pipelines and facilities and expanding the scope of actions under criminal provision.

Our members recognize that the industry is a target for both criminals and nation states who are working to steal intellectual property, disrupt operations and undermine our economy. They take the threats very seriously and continue to prioritize the protection of their assets from both physical and cyber-attacks. Companies in the oil and natural gas industry have made and continue to make considerable investments in defending their networks, bolstering their cyber security defenses, and participating in organizations and partnerships where they can share and receive threat information. Specifically, up to the board level, they are making important investments in time, people and resources to defend themselves, so they can continue to deliver the products Americans rely on every day. While threats continue to evolve, so do industry's defenses, by working with government partners, including TSA, DHS, FBI and others to understand the threat. We believe the industry's record of delivering products safely and efficiently 99 percent of the time is indicative of the actions our members take to protect themselves in the face of very real and serious threats.

#### CONCLUSION

Safety of the public and the environment is our industry's top priority, and collaboration with PHMSA, DHS, and other government agencies only strengthens our ability to transport our products across America with the fewest possible number of incidents. We are committed to promoting safety in all of our operations, helping to ensure that American families and businesses can 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.

Mr. LIPINSKI. Thank you, Mr. Rorick.

The Chair now recognizes Mr. Holstein for 5 minutes.

Mr. HOLSTEIN. Thank you, Mr. Chairman.

I will focus my remarks on PHMSA's regulation of the transportation and storage part of the natural gas industry. Because natural gas, which, as you know, is mostly methane, that leaks from pipelines not only creates dangerous conditions for people and communities, it also contributes to and accelerates climate change.

Methane is some 84 times more powerful than carbon dioxide over the first 20 years following its release. And the atmospheric damage that it causes, which includes the amounts accumulating in the atmosphere, combine to cause 25 percent of the global warming that we are experiencing today. Atmospheric concentrations of methane have increased 164 percent over the past 250 years, which is a direct result of human activities.

Therefore, decisions made now about methane emissions will have a major impact on the rate at which the climate changes over the lifetimes of many Americans living now and spanning the next several generations.

Methane also negatively affects human health. When it is released, other chemicals are often released as well, including cancer-causing benzene and also ozone, which contributes to smog formation.

The good news is that detecting methane emissions from oil and gas operations, including pipelines and storage facilities, is both feasible and highly cost-effective. It is also getting better with every passing year.

For example, the Environmental Defense Fund worked with Google Earth with their street mapping cars, and we have been able to map gas leaks, including relatively small ones, from distribution pipelines in 12 cities around the United States.

Another example, Picarro, Incorporated, which is a leading vendor of natural gas leak detection equipment, did a major project recently with Public Service Electric and Gas in New Jersey, which I might note is also my home State, and found that the accuracy of its mobile methane emissions detection systems is some 1,000 times greater than that of legacy systems. It is able to detect methane at the scale of one part per billion. These kinds of high-sensitivity, advanced leak detection systems are mounted on vehicles and on aircraft, including drones, and can quickly locate gas leaks and help quantify them.

In another study, ICF International concluded that methane emissions from the North American oil and gas sector could be cut by over 40 percent using equipment already on the market at a cost of less than one penny per 1,000 cubic feet of gas produced annually.

Moreover, that study found that the value of gas not emitted into the atmosphere as a result of detection and mitigation measures amounted to well over \$½ billion a year.

Accordingly, we believe that PHMSA must move in the direction of more reliable and comprehensive inspections of pipelines to ensure that those kinds of modern, advanced leak detection systems

are implemented throughout the gas transportation and storage supply chain.

Now, looking ahead—and I want to say a couple of words about gas gathering lines—we see that there are over 300,000 miles of new onshore gas gathering lines that are expected to be built over the next 20 years. That is on top of the 435,000 miles of gas gathering lines already in place.

The technology to prevent gas leaks from those thousands of miles of gathering lines and to find and fix them quickly when they do happen is here. It is cost-effective, it is good for the environment, and it has the potential to save enormous amounts of natural gas that otherwise would be wasted.

First, however, PHMSA must learn where those gathering lines actually are. Accordingly, Congress should ensure that PHMSA requires gathering line operators to participate in the National Pipeline Mapping System. Communities and first responders across America need to know where those lines are.

Two or three quick things in terms of additional congressional actions we believe are needed.

We think there is no longer any reason, if there ever were one, to shield poor performers from the consequences of their decisions and actions. So we think that one of the things that should happen is the elimination of the current cap on civil penalties.

Second, Congress should remove the exemptions from PHMSA's requirements for safety-related condition reporting.

And finally and very importantly—and I have not heard it mentioned today—is the budget. None of the recommendations you will hear today will matter in the long run unless Congress rejects the administration's PHMSA budget proposals. The President's budget request for fiscal year 2020 includes a funding cut of almost 10 percent for pipeline safety as well as additional staffing reductions at PHMSA. PHMSA must have the resources necessary this year and beyond to do its work if these conversations about its responsibilities and programs are to have any meaning.

Thank you so much for the opportunity to testify.

[Mr. Holstein's prepared statement follows:]

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**Prepared Statement of Elgie Holstein, Senior Director for Strategic Planning, Environmental Defense Fund**

Mr. Chairman and members of the subcommittee, thank you for the opportunity to appear before you today to discuss the safety and oversight of the nation's pipeline system.

Environmental Defense Fund (EDF) is an international environmental advocacy organization with a million-and-a-half members. Placing a strong emphasis on our core strengths of science and economics, we are dedicated to finding innovative approaches to solving some of the most difficult national and international environmental challenges. Whenever possible, we collaborate with private-sector partners, state and federal leaders, academic institutions and other environmental organizations interested in maximizing incentives for market-based solutions to environmental problems.

We recognize that the oil and gas sector is a key contributor to our nation's energy mix, but with that role comes the responsibility to minimize harmful impacts to our communities and to the environment. With the continuing increases in recoverable U.S. oil and gas reserves, it is more important than ever that both the industry and the government commit to a cleaner and more sustainable energy future. Recognizing and addressing the causes and effects of methane emissions from the oil and gas sector is one important step in fulfilling that commitment.

In thinking about the role and performance of the Pipeline and Hazardous Materials Safety Administration (PHMSA) of the Department of Transportation, it is important to emphasize that environmental protection is among the core responsibilities of the agency. We fully understand and support the view that PHMSA has a critical role to play in protecting public health and safety. However, we also believe that environmental protection is closely aligned with that mission—in fact, that it is inextricably linked to it—and that the agency needs to be more responsive and more proactive in addressing both safety and environmental matters.

I will focus my remarks on PHMSA's regulation of the natural gas industry, because natural gas (methane) leaks from pipelines not only create dangerous conditions for people and communities, they also contribute to and accelerate climate change. Scientists around the world—and even in the Trump Administration—are telling us that we must act quickly to avert the worst consequences of human-caused climate change.

We believe that PHMSA already has sufficient authority to play a more ambitious role with respect to the environment. However, we also believe that Congress needs to be more explicit in defining the terms of the agency's environmental mission. In addition, Congressional action seems overdue to address the agency's repeated failures to meet congressionally defined deadlines for acting on statutory mandates, as well as the excessive time it seems to take in launching—and completing—major regulatory initiatives.

#### THE HARM FROM METHANE EMISSIONS

One of the most serious issues within PHMSA's jurisdiction is the issue of methane emissions from the nation's extensive natural gas transportation and storage infrastructure.

As you know, natural gas is playing a growing role in America, notably with respect to the continuing market-based preference for gas over coal in the generation of electricity. At the same time, methane—the primary component of natural gas—has an especially pernicious effect on the environment when it escapes or is released into the atmosphere. Methane emissions accelerate climate change, and they undermine the climate benefits of switching from coal-fired electricity generation to natural gas-fired generation.

The scientific understanding of the extent of methane pollution and its effects has been growing steadily. EDF has contributed to that knowledge base by engaging with 100 partnering organizations, including 40 research partners from industry and academia, in numerous scientific studies that have helped to better identify the extent and sources of methane emissions in the oil and gas sector.<sup>1</sup> That work has been driven by our dual concern for the environment and for public health.

Across our economy, emissions from the oil and gas sector as a whole represent about a third of total U.S. methane emissions, the largest of all industrial U.S. sources, according to EPA. They are equivalent to the carbon pollution from more than 250 coal plants over 20 years. Natural gas systems alone are the second largest source of methane.

The nature of methane's damage to the environment is now clearly understood. In terms of the climate damage it does, methane is some 84 times more potent than carbon dioxide over the first couple of decades following its release. While CO<sub>2</sub> represents a continuing, long-term threat in the form of accumulated, long-lived and rising atmospheric concentrations, methane drives near-term climate effects. Methane's potency, and the amounts making their way into the atmosphere, combine to cause approximately 25 percent of the global warming we are experiencing right now.

The global warming impact of those emissions reflects both methane's potency and the fact that atmospheric concentrations of methane have increased 164 percent over the past 250 years—a direct result of human activities.

The Intergovernmental Panel on Climate Change—the distinguished international scientific group that is tracking climate change worldwide—has concluded that more than half of the warming in the next couple of decades due to current emissions will be from short-lived climate pollutants such as methane.

Therefore, decisions made now about methane emissions will have a major impact on the rate at which the climate changes over the lifetimes of many Americans living now and spanning the next several generations. (For more details about the science underlying concerns about methane and other short-lived climate "forcers," please see the attached article from *Science* magazine.)

<sup>1</sup>Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain, R.A. Alvarez et al., *Science*, October 9, 2018

Methane emissions have impacts beyond the realm of climate change, extending to threats to human health. When methane is released, other chemicals such as benzene and volatile organic compounds—which contribute to ground-level ozone (smog)—are often released as well. So, it makes sense—and we believe it is essential—to address the threats from both CO<sub>2</sub> and methane, as the Science article discusses.

#### PHMSA'S AUTHORITY TO ACT

PHMSA is expressly empowered to consider, and to design regulations to mitigate, risks to the environment—including methane emissions from gas pipelines. The Pipeline Safety Act of 1992 amended the Natural Gas Pipeline Safety Act of 1968 to expand DOT's responsibilities to include environmental protection in addition to safety. Specific amendments delegate responsibility to the Office of Pipeline Safety for, among other things:

- (1) Requiring pipeline operators to submit reports on any condition that is a hazard to the environment;
- (2) Considering whether an operator's inspection and maintenance plan is sufficiently protective of the environment; and
- (3) Promulgating minimum safety standards for pipelines and facilities that are designed to protect the environment.

According to EPA's latest greenhouse gas inventory, leaks and routine operations in the transmission and storage (T&S) component of the gas supply chain lead to 1.3 million metric tons of methane emitted per year. The problem is clearly serious enough to merit additional action by PHMSA and by Congress.

#### DETECTING METHANE EMISSIONS

Our assertion that PHMSA should do more to reduce methane emissions from energy infrastructure within its jurisdiction should be seen in light of the fact that the cost-effectiveness of methane detection equipment and services—especially for oil and gas operations—has been improving steadily.

For example, Environmental Defense Fund, working with Google Earth Outreach's Street View mapping cars, has been able to map gas leaks from distribution pipelines in 12 cities around the United States.<sup>2</sup>

In 2016 EDF and the Pipeline Safety Trust wanted to understand the potential impacts on methane emissions from PHMSA-proposed new gas pipeline safety rules. Specifically, we commissioned an independent analysis by M.J. Bradley and Associates to assess the methane emissions associated with pipeline "blowdowns." (A blowdown is a release of pipeline gas into the atmosphere so that maintenance, testing or other activities can occur.) The analysis also examined the mitigation methods available to reduce such emissions.<sup>3</sup>

The study found that while additional blowdowns potentially required by the rule could result in significant additional methane emissions, fifty to ninety percent of the methane emissions attributable to maintenance activity conducted to comply with the proposed rule could be cost-effectively mitigated using currently available methods, depending on the mitigation measure selected and the parameters of the blowdown.

M.J. Bradley analyzed five currently available mitigation measures: in-line compression, low pressure diversion, mobile compression, flaring, and stopples. All five mitigation methods investigated resulted in negative net cost as well as high cost-effectiveness values when saved gas value and the social benefits (such as climate impacts) of methane mitigation were considered.

Another example: In a recent report on mobile emissions detection work done for Public Service Electric and Gas in New Jersey, Picarro Inc.—a leading vendor of natural gas leak detection equipment—reported that the accuracy of its mobile methane emissions detection systems is some 1000 times greater than that of legacy systems. It is able to detect methane at the scale of one part per billion.<sup>4</sup>

These kinds of high-sensitivity, advanced leak detection systems are mounted on vehicles and aircraft (including drones) and are increasingly used by companies anxious to assure the public and regulators that they are doing their part to detect and

<sup>2</sup> EDF, Google Use Special Street View Cars TO Map and Measure Leaks from Pittsburgh Natural Gas System. <https://www.edf.org/media/edf-google-use-special-street-view-cars-map-and-measure-leaks-pittsburgh-natural-gas-system>

<sup>3</sup> M.J. Bradley and Associates, "Pipeline Blowdown Emission and Mitigation Options," June 2016. <http://blogs.edf.org/energyexchange/files/2016/07/PHMSA-Blowdown-Analysis-FINAL.pdf>

<sup>4</sup> Picarro, Inc., <https://www.picarro.com/>

fix pipeline leaks, protect public health and safety, save money for their customers, and reduce adverse impacts on the climate.

In 2016, EDF released a summary analysis, prepared by the consulting firm, ICF, Inc., of three previous reports examining the cost-effectiveness of a variety of methane emissions abatement technologies, including leak detection and repair programs. The report concluded that methane emissions from the North American oil and gas sector could be cut by over 40 percent using equipment already available on the market at that time, at a cost of less than 1 penny per thousand cubic feet of gas produced.<sup>5</sup>

Moreover, the value of natural gas savings amounted to well over a half-billion dollars a year. (The study noted that additional, health-related benefits would accrue from pollution reductions associated with methane abatement, but those benefits were not included in the cost-benefit calculations—meaning the remarkable cost-benefit conclusion were very conservative.)

We believe that PHMSA's traditional focus on Integrity Management Systems limited to high-consequence areas is ill-suited to address the problem of methane emissions and climate change, since gas leaking from anywhere in the gas supply chain does serious harm to the atmosphere and worsens near-term global warming. (It also undermines the environmental advantage that gas industry representatives point to in their electricity market competition with coal.) Accordingly, we believe that PHMSA must move in the direction of more reliable and comprehensive inspections of pipelines to ensure that advanced leak detection and repair protocols are implemented for gas pipelines everywhere.

#### GAS GATHERING LINES

With the ongoing national boom in natural gas development, the system of onshore gas gathering lines has also increased, and it is likely to continue to expand with thousands of miles of new lines carrying gas under high pressure. Based on information from the Interstate Natural Gas Association of America (INGAA), over 300,000 miles of new onshore gas gathering lines are likely to be constructed over the next 20 years.

As discussed above, the cost-effectiveness and rapidly improving accuracy of leak detection and repair equipment reinforce the argument for extending advanced leak detection to the nation's more than 435,000 miles of gas gathering lines. The technology is here; it is cost-effective, and it has the potential to save enormous amounts of natural gas that otherwise would be wasted.

First, however, PHMSA must learn where those lines actually are.

The time has come for Congress to direct the agency, working with the states, to develop an inventory of gathering lines. That inventory must include not only location, but size, operating pressures, and other data relevant to safe and environmentally sound performance.

The lack of that information not only deprives regulators and the public of important information, it also makes it that much harder for PHMSA to justify major new rules. This is particularly true given the cost-benefit requirements that Congress has imposed on the agency, a hurdle made harder to clear by the absence of comprehensive information about gathering lines.

Accordingly, Congress should ensure that PHMSA requires gathering line operators to participate in the National Pipeline Mapping System.

EDF also supports the expansion of reporting requirements to include gas gathering pipelines. Annual, incident and safety-related reporting requirements are essential for reasonable management and data-based regulation of this growing pipeline segment.

Onshore gas gathering pipelines are currently exempt from reporting requirements, and most states with delegated authority to conduct inspections on intrastate gathering lines have not developed regulations to provide meaningful oversight to fill this gap.

Without data and oversight of these gathering lines, assessing and managing the safety risks associated with larger, higher-pressure gathering lines is impossible. To remedy this problem, GAO recommended that PHMSA collect data on federally unregulated gas gathering lines, to allow the Agency to quantitatively assess safety risks, and evaluate the sufficiency of regulation.

EDF concurs with this recommendation, and is pleased to see it reflected, at least in part, in the proposed rules for certain gas gathering lines. Specifically, EDF sup-

<sup>5</sup> "Summary of Methane Emission Reduction Opportunities Across North American Oil and Natural Gas Industries." May 2016. [https://www.edf.org/sites/default/files/north-american-executive-summary\\_english.pdf](https://www.edf.org/sites/default/files/north-american-executive-summary_english.pdf)

ports PHMSA's proposal to repeal the exemption for reporting requirements for operators of onshore gas gathering lines, which would require gas gathering line operators to submit annual, incident and safety-related reports, and other important data already required for other types of pipelines.

As noted above, gas gathering lines should be included in the National Pipeline Mapping System to provide consistent, accessible information about the ownership and location of the rapidly expanding gathering infrastructure.

The type of data submitted under the National Pipeline Mapping System requirements are precisely the type of data PHMSA needs to evaluate the efficacy of current regulatory thresholds. The location and information regarding gas gathering lines will—as with similar information for transmission lines—assist with emergency response, regulatory management, compliance, and analysis. Future risk-based regulations, such as an expansion of the rules applicable to gas gathering pipelines and installation of automated control valves, may be improved with data submitted under the National Pipeline Mapping system requirements.

EDF also supports PHMSA's proposed clarification of the gathering line definition, which would avoid inadvertently excluding certain gathering lines from regulation.

#### ADDITIONAL NEEDED CONGRESSIONAL ACTIONS

Additional steps Congress should take to improve pipeline safety and reduce methane emissions include the elimination of the current cap on civil penalties. There is no longer any reason, if there ever were one, to shield poor performers from the consequences of their decisions and actions.

Congress should also remove the exemptions from PHMSA's requirements for safety-related condition reporting. That reporting is intended to identify conditions that could lead to future incidents, and the reports are considered by the agency to be important indicators of safety system effectiveness. However, PHMSA permits several exemptions from such reporting, undermining their usefulness as early indicators of potential problems. In the unfolding era of "big data" they also reduce the potential value of the reports as a predictive tool that might otherwise save lives and protect property and the environment.

*Budget:* None of these recommendations will matter in the long run, however, unless Congress rejects the administration's PHMSA budget proposals for next year. The President's budget request for FY2020 includes a funding cut of almost 10 percent for pipeline safety, as well as staffing reductions, at PHMSA. If, as the saying goes, "budget is policy," Congress must show its determination to safeguard the public and the environment by rejecting that ill-conceived budget proposal. PHMSA must have the resources necessary to do its work if these conversations about its responsibilities and programs are to have any meaning.

#### CONCLUSION

Natural gas is, and will remain for the foreseeable future, an important part of our nation's energy mix. The natural gas revolution in America can make a positive contribution to a cleaner environment, but only if gas development is based on reasonable rules to ensure that its more damaging impacts are limited.

As we manage our nation's bounty of oil and gas, it is important to get the rules right. Doing so will not only help minimize adverse environmental impacts, it is an essential ingredient in building public trust and confidence in the ability and commitment of the government and the industry to reducing negative impacts on public health, safety and the environment. Congress can ensure that PHMSA will play an expanded role in delivering on that commitment.

Thank you for the opportunity to testify today, and I welcome any questions you may have.

#### ATTACHMENT: SCIENCE MAGAZINE ARTICLE

[The article is available online: J.K. Shoemaker et al., "What Role for Short-lived Climate Pollutants in Mitigation Policy?" *Science* magazine, Dec. 13, 2013, <http://centromariomolina.org/wp-content/uploads/2012/05/Molina-et-al.-Science-What-Role-for-Short-Lived-Climate-Pollutants-in-Mitigation-Policy-2013.pdf>.]

Mr. LIPINSKI. I would like to thank all the witnesses for your testimonies.

We will now move on to Member questions. I will recognize myself for 5 minutes.

PHMSA's regulatory requirements are unique among regulatory agencies. I want to ask Mr. Weimer and Mr. Kuprewicz, what are the safety implications of PHMSA having to undergo a cost-benefit analysis where it must have quantifiable benefits that exceed cost before being able to issue a notice of proposed rulemaking? And why do you recommend Congress eliminate this unique requirement for PHMSA?

Mr. Weimer, if you can go first?

Mr. WEIMER. Sure. Thank you for the question.

We recognize the cost-benefits in the statute as being unique. I think PHMSA, pipeline safety side, is one of the few agencies that has such a thing. We don't disagree that cost-benefit is an important thing to look at during regulations, but it is required of all regulators as part of OMB and through Executive orders. But since it is in the statute, it gives the industry a unique legal hook to argue with the regulations.

And the way that works is—I think somebody earlier today asked what the value of human life is. And when you do the cost-benefit analysis that PHMSA uses, they use a figure of about \$9 million or \$10 million as the benefit of a human life. So if you have a tragedy like San Bruno that kills eight people and you go through a cost-benefit to look at installing new valves on a pipeline and you say that over the course of 10 years you are going to prevent 10 lives from being lost, that would be worth about \$100 million.

At the same time, if you look at what the cost would be for the industry to put a valve on every mile of pipeline that it might be required, like based on the NTSB recommendations, it may be that those valves—and I am just making numbers up—cost \$1 million apiece, and you might have to put 400 of them nationwide, so that is worth \$400 million. So the cost of implementing automated valves way outweighs the benefit of the human lives you are going to save.

Now, that was a very basic overview, and it is much more complex, but that is the way the statute works, in that industry can go to court then and argue that the statute wasn't based on cost-benefit because it is in the statute. You can't argue that just at OMB, where it does make sense to weigh those things. So that is why we think it should be removed.

Mr. LIPINSKI. Mr. Kuprewicz, do you want to add anything to that?

Mr. KUPREWICZ. Yes. I would add that, in my 20 years of kind of watching the development and promulgation of pipeline safety regulations in the fields, I have seen PHMSA's frustration in trying to push development of some very good ideas. And the cost-benefit process slows the whole thing down, and then it gets lost, you know, in bureaucratic procedures on many things.

And so my comment earlier about—I used to think \$1 billion was a lot of money, in terms of some of these tragedies. And you have heard just a few that I have investigated today in more detail. The analysis is all wrong. The nature of the failures are such that cost-benefit does not set itself up. Its primary objective, from where I stand, is to deregulate. So let's call it what it is.

Now, it is up to Congress to decide how they want to deal with that.

Mr. LIPINSKI. That is a very interesting point you raise about actually measuring the benefits. That is something we are going to have to look at closely here.

I want to move on to Chief Eggleston. What can Congress do to improve the information-sharing between pipeline operators and local communities' emergency responders so that you have the type of information that you need?

Chief EGGLESTON. Well, we truly believe that that point of contact is best handled through the LEPCs, that they throughout the Nation have been proven to help share information across localities in terms of hazards in their areas. So continuing to help fund the grant programs that support the LEPCs, we think, is the best way to go forward.

Mr. LIPINSKI. I know when I mentioned in my opening statement that in Romeoville, in my district, there was a leak. The story is that the leak was detected, and someone had to go walk along the pipeline to get any information on whose pipeline this was to even know who to contact. It would be much better if that information was available, along with other information.

I want to quickly ask, in the short amount of time, a quick question of Mr. Holstein. You talked about, and I had read about Google going around with their mapping finding the leaks. What happened with that information? Was it actually used to fix leaks?

Mr. HOLSTEIN. We posted that information, Mr. Chairman, on our website, and so anyone can see it today. And we specifically encouraged local citizens in those communities, places like Boston and Indianapolis and eight other cities around the country, encouraged people to discuss that amount of leakage. In many older cities, in particular, we found there was a great deal of leakage.

However, we were careful to say that we were not challenging the classification system that is used by PHMSA and by gas distribution utilities in terms of the decisions they make about how quickly to respond, how urgently to respond to different types of leaks. After all, a big leak out in a field is less of a safety threat than a small leak in a small apartment.

So mostly what we were trying to demonstrate is that new technologies exist to do very accurate and very inexpensive and also very rapid surveys of, in that case, streets in major cities. But the same kinds of technologies can be deployed elsewhere.

Mr. LIPINSKI. Thank you. My time has expired.

I now will recognize Mr. Balderson for 5 minutes.

Mr. BALDERSON. Thank you, Mr. Chairman.

My first question to the panel—good afternoon, and thank you all for being here today—is for Mr. Black.

Mr. Black, thank you for testifying before the subcommittee today regarding pipeline safety.

I think we all can agree that PHMSA regulations shouldn't prevent an operator from applying the best available technology and inspection tools to conduct assessments and address potential problems.

If PHMSA was to develop a pilot program that allows companies to test and use new pipeline technologies and offer exemptions



from agency regulations, how could we do so responsibly and ensure the expectations meet adequate safety levels?

Mr. BLACK. Thank you, Congressman.

PHMSA has authority in motor carrier statute to issue pilot programs, and we recommend that here for pipeline safety so that we can harness the benefits of new technologies, just like you are saying.

Advances in pipeline inspection technologies and in analytical techniques have really increased recently, and they have outpaced PHMSA regulation. With the pilot program, PHMSA could test technologies and approaches that they believe would have an equivalent level of safety that could gain real-world experience and data that they could use then to have more confidence moving forward on regulations.

We believe safety would be improved by using these latest technologies on when to inspect, when to perform maintenance on pipelines, and to use the benefits of improving technology.

Mr. BALDERSON. Thank you for that answer.

A followup with that: Can you provide any examples of innovative technologies that can be used to promote pipeline safety operations to outdated PHMSA regulations?

Mr. BLACK. Pipelines are inspected by in-line inspection or diagnostic robots. You hear us refer to them often as smart pigs. They travel inside a pipeline, using technologies like MRI or an ultrasound at the doctor's office. They collect terabytes of data. They give us more information than we have ever had before about smaller and smaller features. With that information, we can prioritize risks and get out there and perform preventive maintenance to address an issue before it becomes a problem.

Outdated PHMSA regulations might suggest a schedule and a prioritization of risks different than modern know-how and engineering principles would tell us. So with a pilot program, PHMSA can put these ideas to use, gather information, and then, if they are proven beneficial, apply those across Federal regulations to benefit safety across the entire industry.

Mr. BALDERSON. OK. Thank you very much.

Mr. Rorick, also thank you for being here today. My next question is, how can the pipeline industry and API member companies work with PHMSA to ensure the agency is able to retain qualified and expert pipeline inspectors?

Mr. RORICK. Thank you for the question, Congressman.

It is one of our core items, as we discuss pipeline authorization, to make sure that PHMSA, as the regulator, is properly resourced to fulfill its mission but then also has properly trained individuals with the expertise needed to provide the proper oversight for our industry.

Certainly, they have run into challenges with both attracting good talent and then training them. And then when they have trained talent, they often lose them, those trained personnel, actually back to industry.

So I think it is important for Congress to work very closely with the agency to ensure that they are taking full advantage of the Government programs that allow them to provide compensatory

pay to their folks and look at other innovative ways to try to attract their employees to stay at the agencies.

Mr. BALDERSON. OK. Thank you.

Mr. Chairman, thank you, and I yield back my remaining time.

Mr. LIPINSKI. Thank you.

The Chair now recognizes Mrs. Fletcher for 5 minutes.

Mrs. FLETCHER. Thank you, Mr. Chairman.

Thanks to all of the witnesses this morning for your testimony and for your written testimony, which I have reviewed.

I want to follow up on a couple of the things that we have talked about here. And one thing—I just want to follow up on Mr. Black's testimony but open this to anyone who wants to comment on it, hearing about the pilot program and some of these ideas.

Are there enough avenues and resources at PHMSA for the agency to consider this data that the new technology can provide and the potential safety benefits that would arise from it?

That is for anybody to answer.

Mr. BLACK. I think there are enough resources for PHMSA to use this.

PHMSA has a practice of reviewing best practices put out by the ANSI-accredited process that Mr. Rorick of API mentioned. There is a new recommended practice on inspecting and repairing pipelines that provides specific proposals for PHMSA to look at that. We have encouraged PHMSA to review those, consider incorporating them into Federal regulations.

The Administrator, I was encouraged to hear, acknowledged that the special permit process is a way for PHMSA to adopt that on a company-specific basis. We encourage them to do that writ large so that we can more quickly let the American public and the environment benefit from safety.

And if not incorporating by Federal regulations or the special permit process, we think the pilot program would let PHMSA, with the resources that it has, use these new technologies and techniques.

Mrs. FLETCHER. Thank you.

I want to switch gears a little bit and ask, with my remaining time, about regulations relating to LNG.

So, as everyone here knows, the U.S. LNG industry has dramatically changed over the past decade. Where many facilities were originally planned as import facilities, the U.S. is now on the verge of becoming a net exporter of oil and gas. So the industry has changed. The regulations governing them haven't really kept pace. That is something I raised earlier.

For anyone on the panel, what reforms and regulations are necessary for the LNG export facilities so that the U.S. facilities can continue to be competitive in the global marketplace but that adequate safety standards are in place here?

Mr. HOLSTEIN. Congresswoman, you are exactly right. Just in the last week, two new formerly import facilities have started down the process, according to the announcement of their owners, into export facilities on the gulf coast. So that is adding two more.

What we need to keep in mind are two things, very quickly. One is the enormous amount of natural gas that will over time flow to

those facilities and the vast areas across America from which that gas will come.

And that is why I talked about the hundreds of thousands of gathering lines that are insufficiently overseen by PHMSA now and need to have much more comprehensive leak detection and repair protocols. But we must begin by mapping them so we know where the heck they are.

The second thing is, with respect to storage facilities—and LNG facilities do entail lots of storage facilities—we need two things. We need a comprehensive rule from PHMSA governing storage facilities. And you may remember the terrible Aliso Canyon disaster in California a couple of years ago. And, secondly, before then, States that have their own implemented storage facility regulatory program should be able to carry those programs out with respect to storage facilities within their borders. Right now, they are not free to do that with regard to all facilities, particularly interstate storage facilities.

Mrs. FLETCHER. OK. That is helpful.

Yes?

Mr. KUPREWICZ. I would just build off of—something that moves at minus-260 degrees Fahrenheit commands much respect. So your line of questioning is very appropriate; you know, where does PHMSA end on its resource allocation here? Because the last thing I want to do is put these gentlemen in a situation they can't win. And so we need to have some focus on that effort in the near future, given the number of new facilities.

Mrs. FLETCHER. Thank you.

Mr. Rorick, do you have a comment on that?

Mr. RORICK. Well, just a quick comment, Congresswoman.

PHMSA is in the process of looking at some safety regulations for LNG facilities. And I think it is important—I think you stated it correctly, and Mr. Holstein added as well—the growth that is going to come from continued export is going to continue.

So it is important that, as PHMSA looks at developing these regulations, that they take a risk-based approach to this and that they also consider the process safety management systems in accordance with that as well.

Mrs. FLETCHER. Thank you.

I will yield back the remainder of my time.

Mr. LIPINSKI. Thank you.

The Chair will now recognize Mr. Babin for 5 minutes.

Mr. BABIN. Thank you, Mr. Chairman.

And thank you all, expert witnesses, for coming here and testifying and giving us your experiences. I want to thank you all for helping us transport liquid energy in the safest manner possible.

I am sure a number of you have heard about the fire which was down in my district. I represent the 36th District in Texas, in Deer Park, Texas. I have more petrochemical refining facilities than any other place in the land. This was at a terminal facility a few weeks ago that caught the attention of the national news. And I was actually down in Houston in the district at the time, had the opportunity to go see this facility.

This dangerous fire, which impacted thousands of lives, highlights the need for us to do a better job to secure and protect these

hazardous materials. Every one of us and, truly, the entire country is dependent on this industry's acute attention to the safe transportation of energy products and other hazardous materials, as they are essential to our daily lives and our commerce.

Mr. Black, if you don't mind, I have a question. Could you please cite specific accidents and spills in the past, what you have learned from them, and how the regulatory environment and technology of today would prevent that same accident from happening again? I think it is vital that we in this industry try to do as much introspection so that we don't repeat history.

Mr. BLACK. The liquid pipeline industry has a long tradition and a comprehensive practice of trying to learn from incidents. I was sorry to hear about the one on the coast. My understanding is that was caused by fire?

Mr. BABIN. Yes.

Mr. BLACK. I was pleased to hear that wasn't caused by a problem with the integrity of the tank. But when there are lessons to be learned from that, either from the operator or from Government regulators, we're going to be ready to share those within industry to try to prevent anything like that from happening.

There are significant pipeline incidents where we have looked at recommendations from NTSB, the safety reports, industry sharing. And we have adopted recommended practices on finding and fixing cracking in pipelines, improving leak detection programs, improving emergency response. We are ready to do that.

Thank you.

Mr. BABIN. OK. You are welcome.

And, then, could you share a little bit more with the subcommittee about what pipeline operators are doing to improve their pipeline safety? And, additionally, how are you working to incorporate the best practices which were recommended by the NTSB?

Mr. BLACK. Well, NTSB, after the Marshall, Michigan, incident in 2010, issued a series of recommendations the industry has met. One was to adopt safety management systems, and we have issued API Recommended Practice 1173. The response, the NTSB said, exceeded expectations, and that is a "hosanna" that they don't give often.

Other cases that we have done from Marshall was, there was issues needed to be—improvements in finding and fixing cracks in pipelines. And that was Recommended Practice 1176. We found that safety data needed to be integrated more from different types of inspections—Technical Report 1178.

Leak detection programs were found at fault in the Marshall incident, so the entire industry has learned through that, through the adoption of API Recommended Practice 1175, so that there is now more constant monitoring of pipelines by trained control room operators.

NTSB made a recommendation out of a Centreville, Virginia, incident recently where we found that there was cracking associated with a dent. And industry is now working on Technical Report 1183 on managing those cracks.

These are a couple of examples of specific ways operators are learning from incidents, trying to improve upon that, and then

share industrywide, implementing improvements throughout all companies to try to avoid incidents.

Mr. BABIN. Very good. I appreciate that very much.

And with that, I yield back, Mr. Chairman.

Mr. LIPINSKI. Thank you, Mr. Babin.

I will now recognize Mr. Payne for 5 minutes.

Mr. PAYNE. Thank you, Mr. Chairman.

And, Chief Eggleston, in my other responsibilities on Capitol Hill, I am on the Committee on Homeland Security and the chairman of the Subcommittee on Emergency Preparedness, Response, and Recovery. And so I spend a lot of my time trying to make sure that you and your colleagues have the training and the safety equipment and the things to respond to these emergencies and be prepared well in advance of them. And so, you know, I take a lot of pride in that as well.

Let me ask you, in your testimony you note that it wasn't clear how many LEPCs are active in carrying out their missions. Correct me if I am wrong, but there seems to be a disconnect between LEPCs, local pipeline operators, and other external stakeholders. What happened, and why does this disconnect exist? And what can be done to fix the disconnect?

You know, it is critical that the LEPCs are up and effectively running.

Chief EGGLESTON. Thank you, sir. I appreciate the question and appreciate your service with the Committee on Homeland Security as well.

I am not sure why some LEPCs are dysfunctional or don't exist. I can speak from my own experience in the Charlottesville/Albemarle area that we have a very active LEPC. And it is mainly driven by the community's demand for transparency and information and my responsibility to ensure that our citizens are protected. So that is my main driver. I reach out and connect with industry, and they are grateful to meet with me and discuss the hazards in my community.

So I think it takes a will of both the locality as well as industry to meet and form the LEPC. That is basically who it is made of. So it is responsibilities on both sides.

I will tell you that I have previously worked in a community that had strong industry, and we had 100, complete transparency working with industry, had one of the strongest LEPCs that I remember being associated with. And we had a number of hazardous material incidents in those industries, and they went very smooth because of the communication and information-sharing that happened.

And when I look at the hazards across our country related to pipeline, it really starts off with partnerships with the operators and information. Because when we send our firefighters out the door to respond to an incident with this kind of magnitude, we need to arm them with as much information as we can. Because I don't want to send them into an incident blindly, because it is not fair to the citizens and not fair to my firefighters.

Mr. PAYNE. Absolutely.

Chief EGGLESTON. Thank you.

Mr. PAYNE. Absolutely. So you think it becomes an issue around the community sometimes—

Chief EGGLESTON. Yes, sir.

Mr. PAYNE [continuing]. In terms of how important this interaction is?

Chief EGGLESTON. It is. I think it also comes down to funding. Some rural communities cannot afford to properly fund their LEPCs. So I think that is where the IFC is working with PHMSA to help fund adequately some of those LEPCs that serve the rural areas but tend to have hazards related to the pipelines that run through them.

So, in some cases, it is community activity; in a lot of cases, it comes down to funding.

Mr. PAYNE. OK. Thank you.

In your testimony, you mentioned that your organization is using your Community Safety—Emergency Planning, Response, and Outreach Grant to help LEPCs prepare for incidents in their communities.

I am interested in learning exactly how you are making sure that the community LEPCs are prepared to respond to pipeline emergencies. Can you describe some of the programs you have with the LEPC to ensure that preparedness?

Chief EGGLESTON. Certainly. We have created some products and training in cooperation with one company, TransCanada, here to provide training to local responders in the LEPC. There is a number of other training products that we have had developed as well that I would be more than happy to send to you after the fact.

Mr. PAYNE. OK. Thank you very much.

And I will yield back the balance of my 1 second.

Mr. LIPINSKI. Thank you.

The Chair now recognizes Mr. Perry for 5 minutes.

Mr. PERRY. Thank you, Mr. Chairman.

Thank you, gentlemen, for being here.

Mr. Black, when individual companies in the individual States install gathering lines, they have to permit them, they have to locate them. The local municipality, the State regulatory agencies know where they are, know who installed them. Is that generally correct? Or do we have no idea where all of these gathering lines are?

Mr. BLACK. I can speak to liquid gathering—

Mr. PERRY. Sure.

Mr. BLACK [continuing]. Where there is more knowledge with States. I think some States are different, but in those States that have production and have for a long time, there are robust regulations in place. PHMSA also regulates certain liquid gathering above certain inches diameter. I believe there is great awareness, but I can't speak to each State.

Mr. PERRY. I mean, is there any reason to believe that the company itself, with a significant investment and a significant liability, doesn't have a great stake in making sure that they are placed safely, that they are maintained correctly, and that their whereabouts is known and documented? And aren't they also required to do those things by the individual States?

I mean, the point is that I think the States do a pretty darn good job, and the implication that the States can't handle this seems to

be, to me—I mean, I come from Pennsylvania. We do a lot of this stuff here, and I think we do it pretty well.

Mr. BLACK. Well, I am much more familiar with the transmission pipelines—

Mr. PERRY. Sure.

Mr. BLACK [continuing]. That we represent. I understand what you said to be the case. I think you are right.

Mr. PERRY. PHMSA covers the Nation's over 2½ million miles of gas and hazardous liquid pipelines, accounting for the transport of 65 percent of the energy consumed domestically.

Given all the concerns raised about their track record of delays in promulgating congressionally mandated safety regulations, what is the overall safety record of the liquids pipelines, as a general rule? Do you know?

Mr. BLACK. We have not been waiting for PHMSA to adopt regulations for us to continue improving safety. We got a broad series of strategic plan initiatives that pay off. In the last 5 years, incidents impacting people and the environment—consensus metrics we all worked on after an NTSB recommendation—are down 20 percent over the last 5 years. Pipeline safety continues to improve.

Mr. PERRY. All right. Over the same period, about how much has the industry seen growth both in terms of pipeline, mileage, and barrels delivered? Because you are talking about being down 20 percent. What is the growth at the same period of time?

Mr. BLACK. Yeah, you are right, Congressman. We have had considerable growth because of the great resource our country has through shale production.

Liquid pipeline miles have—let's see—crude and products delivered have increased 44 percent per year. Crude oil delivered has increased 37 percent. Total mileage has increased 12 percent.

Now, I gave you those stats of a 20-percent decrease in incidents impacting people and the environment. That is not normalized to adopt the growth. That is raw numbers—

Mr. PERRY. Right.

Mr. BLACK [continuing]. That are decreasing at the same time pipelines are increasing—

Mr. PERRY. Right.

Mr. BLACK [continuing]. Miles and barrels delivered.

Mr. PERRY. Yeah. So it is really a good news story, quite honestly, without Federal intervention or with Federal intervention, which generally is impeding the industry because we are asking you to wait, but you are not waiting in terms of safety, and we appreciate that.

Can you elaborate on industry efforts to improve safety across the pipeline infrastructure?

Mr. BLACK. Oh, there is a strategic plan that we have where we analyze the safety data to address the issues that are more problematic. Our goal is zero incidents, and we work towards those.

The most recent example is an industrywide best practice on inspecting and repairing pipelines, API Recommended Practice 1160, that would adopt the latest technologies and techniques. We hope PHMSA will incorporate those or Congress will authorize a pilot program so that PHMSA can test those and then use them in all regulations.

Mr. PERRY. All right. I have a couple other questions for you, which I may submit for the record.

In the remaining 50 seconds, I want to ask Mr. Rorick for his thoughts on the gathering lines.

Mr. RORICK. With regards to, Congressman—so the commitment from the industry with regards to gathering lines for safety? Is that—

Mr. PERRY. Yes.

Mr. RORICK [continuing]. What you are referring to?

Mr. PERRY. Yes, the conversation I was having with Mr. Black about documenting their location, safety, and whether it should occur at the State or Federal level, and the fact that the States, in my opinion, being from Pennsylvania, we do it pretty well, I think. So—

Mr. RORICK. Yes, sir. And I think a couple of key things to remember. First and foremost is that gathering lines in high-consequence areas are already regulated. What we are currently working on with PHMSA and what PHMSA is working on is some regulation for gathering lines right now. And we are in agreement with the discussions that are taking place right now, which is looking at a diameter size of 12.75 for regulation.

So there is a lot of work that is being done, there is a lot of knowledge, but there is also a lot of work that continues to be done on the issue.

Mr. PERRY. I appreciate your time and yield back.

Mr. LIPINSKI. Thank you.

All right. At the risk of more trouble here, I am going to open up for a second round of questions. Don't worry, it will be short. So I recognize myself for 5 minutes.

I just want to ask a quick question of Mr. Weimer.

What does the record show in terms of the safety of pipelines in recent history? What data do we have? Are pipelines getting more safe or less safe?

Mr. WEIMER. Well, there is a lot of different data out there, and you have heard different parts of it today, and it really depends on which piece of it you are looking at. As I said, I was looking at overall data. And since the PIPES Act was signed in 2016, there have been 1,700 reportable failures on pipelines, and almost 800 of those were significant incidents under PHMSA's definitions.

If you look at integrity management, how well it is working, and you go onto PHMSA's website and look, large spills on hazardous liquid pipelines have been increasing over the last decade, and large releases and ruptures on gas transmission pipelines have been increasing.

So, you know, we could spend the rest of the afternoon probably cutting and pasting data and coming up with our own stuff, but if you look at the overarching data on PHMSA's website, you will see that some of the major types of pipelines, the incidents are increasing.

And for gas gathering lines that have been mentioned, the 400,000 miles of unregulated ones, we don't know because they are unregulated and no one even keeps track of that. But there have been some significant incidents on those just in the past year, like, in our written testimony, we point out the one that killed the 10-



year-old child in Texas on a pipeline that was 10 inches in diameter, which is smaller than what API is recommending now for gas gathering lines.

Mr. LIPINSKI. Thank you.

With that, I will yield back.

And, Mr. Balderson, do you have any further questions?

Mr. BALDERSON. Mr. Chairman, I don't, no. Thank you.

Mr. LIPINSKI. OK.

And Mr. Payne is gone, so that wraps it up.

I thank all of our witnesses for your testimony today. It is extremely important as we look at the pipeline safety reauthorization bill. Thank you for your testimony and your time, and you are dismissed.

I want to ask unanimous consent that the record for today's hearing remain open until such time as our witnesses have provided answers to any questions that may be submitted to them in writing and ask unanimous consent that the record remain open for 15 days for any additional comment and information submitted by Members or witnesses to be included in the record of today's hearing.

Without objection, so ordered.

If no other Members have anything to add, the subcommittee stands adjourned.

[Whereupon, at 1:09 p.m., the subcommittee was adjourned.]



## SUBMISSIONS FOR THE RECORD

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**Letter of March 8, 2016, from Calvin L. Scovel III, Inspector General, U.S. Department of Transportation, Submitted for the Record by Hon. DeFazio**

MARCH 8, 2016.

Hon. MICHAEL E. CAPUANO

*Ranking Member*

*U.S. House of Representatives*

*House Transportation and Infrastructure, Subcommittee on Railroads, Pipelines, and Hazardous Materials, Washington, DC 20015-2017*

DEAR RANKING MEMBER CAPUANO:

This is in response to your letter to the Department of Transportation (DOT) Office of Inspector General (OIG) dated February 26, 2016, requesting our input on ways to enhance the implementation and oversight of DOT's Pipeline Safety Program. We greatly appreciate your concern for the enforcement of criminal pipeline safety laws. While the regulatory enforcement of pipeline safety is handled by the Pipeline and Hazardous Materials Safety Administration (PHMSA) and State regulators, without effective criminal enforcement as well there is a danger that pipeline operators may treat the administrative enforcement of fines as nothing more than the cost of doing business. Unfortunately, although there have been thousands of pipeline incidents over the past twenty years, it has not been possible to bring a significant number of pipeline safety prosecutions under Title 49 U.S.C. Section 60123(a) which sets forth the criminal penalty for violation of pipeline safety laws, regulations and orders.

A significant obstacle to bringing more successful prosecutions is the language of section 60123(a) itself, which requires that the violation be committed "knowingly and willfully." A requirement of willfulness is fairly unusual in criminal statutes and is generally reserved for violations such as tax evasion where ordinary citizens are faced with complying with a complex set of rules. This is markedly different from the pipeline industry which is characterized by sophisticated entities with professional legal and regulatory affairs staff. The willful standard has led to numerous pipeline safety cases being declined for prosecution by the U.S. Department of Justice. More significantly, there are many cases that PHMSA does not refer to OIG for criminal investigation because PHMSA concludes there is insufficient evidence to establish a willful violation.

We have had far more success prosecuting cases under Title 49 U.S.C. Section 5124, which establishes the penalty for violating hazardous materials transportation laws and regulations, than under section 60123(a). Prosecution under section 5124 originally required a showing of willfulness, but the standard was changed in 2005 to penalize reckless violations as well. In the past five years alone, we have brought Federal charges under section 5124 against 24 individuals and companies. By contrast, Federal charges under section 60123(a) have only been brought four times since 1996.

We believe that section 60123(a) should be amended by changing "knowingly and willfully" to "recklessly" to mirror section 5124. Persons and businesses shipping hazmat are required to know the rules even though in many instances they may only ship hazmat on an occasional basis and may never interact with PHMSA. For pipeline operators, the safe operation of pipelines is an integral part of their operations and they have frequent contact with regulators. We note that this would not result in criminal liability for companies that are making good faith efforts to comply with pipeline safety regulations. As defined in section 5124, a person acts recklessly when the person displays a deliberate indifference or conscious disregard to the consequences of their conduct.

Another obstacle to successful prosecution of criminal pipeline safety violations is that the employees of pipeline operators and other persons with knowledge of viola-

tions rarely come forward. Potential whistleblowers often believe that if they come forward they will be unable to find future employment in the industry. Although statutes exist to protect whistleblowers, this has not been enough to encourage insiders to come forward. It is unfortunately the case that DOT may not become aware of pipeline safety violations until a natural gas pipeline explodes or a liquid pipeline leaks significant amounts of oil or gasoline. We believe that a whistleblower incentive provision, such as the one recently enacted by the Fixing America's Surface Transportation Act,<sup>1</sup> would greatly enhance DOT's ability to identify safety violations and take appropriate action before a pipeline rupture or explosion occurs.

If you have any questions or wish to speak to us further regarding this matter, please do not hesitate to contact me at (202) 366-1959 or Nathan Richmond, Director and Counsel for Congressional and External Affairs, at (202) 493-0422.

Sincerely,

CALVIN L. SCOVEL III  
*Inspector General, U.S. Department of Transportation*

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**Statement of the Interstate Natural Gas Association of America, Submitted for the Record by Hon. Lipinski**

[The statement is retained in the committee files and is available at: <https://www.ingaa.org/Filings/14956/36379.aspx>.]

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**Statement of the American Gas Association, Submitted for the Record by Hon. Lipinski**

[The statement, including a report entitled "Leading Practices to Reduce the Possibility of a Natural Gas Over-Pressurization Event," is retained in the committee files. The report is available at: <https://www.aga.org/contentassets/1e4dac45c7e94177a033844a6a90a109/leading-practices-to-prevent-over-pressurization-final.pdf>.]

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<sup>1</sup> P.L. 114-94 (December 4, 2015)

## APPENDIX

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### QUESTIONS FROM HON. PETER A. DEFazio FOR HON. HOWARD “SKIP” ELLIOTT

Section 8 of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 requires pipeline operators to install leak detection systems, where practicable, and requires PHMSA to establish performance standards for the capability of such systems to detect leaks. When asked about the status of this mandate, you indicated that PHMSA sent the Notice of Proposed Rulemaking (NPRM) to the Department of Transportation for review “probably . . . within the last 90 days.”

*Question 1.* As of the date of the hearing, how many days had the NPRM addressing leak detection been under review by the Office of the Secretary (OST)? What date did PHMSA send the NPRM to the OST?

*ANSWER.* PHMSA initially sent the Amendments to Parts 192 and 195 to require Valve installation and Minimum Rupture Detection Standards NPRM to OST on August 27, 2018. Between that date and the hearing date of April 2, 2019, 219 days elapsed, during which a collaborative review process has been taking place.

*Question 2.* When considering a rulemaking, what is the value, including the dollar amount, that PHMSA assigns to a human life? When was this assessment last adjusted or updated?

*ANSWER.* Consistent with other regulatory agencies at the U.S. Department of Transportation (DOT), PHMSA does not “assign a value to a human life” or place a value on individual lives, but instead uses the Value of Statistical Life (VSL)<sup>1</sup> measurement when monetizing the reductions in fatality risk that would result from a proposed regulation. Following the latest DOT guidance on valuing the reduction in fatalities and injuries by regulations, PHMSA has been using \$9.6 million as the last updated VSL in its regulatory impact analyses assessing the benefits of preventing fatalities.<sup>2</sup> The last update on VSL guidance was issued on August 8, 2016 using a base year of 2015.<sup>3</sup>

*Question 3.* Please provide information to each of the questions below relating to how PHMSA calculates the benefits in a cost benefit analysis of potential regulatory proposals:

- a. How does PHMSA determine and calculate the benefits associated with a potential provision in a notice of proposed rulemaking or a final rule?

*ANSWER.* In determining the benefits of a potential provision in a rulemaking, PHMSA follows Circular A-4, the Office of Management and Budget’s (OMB) guidance on the development of regulatory analysis, as well as Executive Order 12866, “Regulatory Planning and Review”.

- b. Identify what PHMSA considers to be benefits, the value that PHMSA assigns to each of those benefits, and when those values were last adjusted. For example, does the agency consider factors such as lives saved, injuries prevented, property damage avoided, economic opportunity loss prevented, and environmental harms reduced or prevented as benefits?

*ANSWER.* PHMSA primarily develops rulemakings to improve safety, which is considered a benefit. The benefit of improved safety is usually measured by es-

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<sup>1</sup>“These terms (i.e. “VSL” or, less precisely, the “value of life”) refer to the measurement of willingness to pay for reductions in only small risks of premature death. They have no application to an identifiable individual or to very large reductions in individual risks. They do not suggest that any individual’s life can be expressed in monetary terms”. Page 29, Circular A-4, 2003. <https://www.whitehouse.gov/omb/information-for-agencies/circulars/>

<sup>2</sup><https://www.transportation.gov/office-policy/transportation-policy/revised-departmental-guidance-on-valuation-of-a-statistical-life-in-economic-analysis>

<sup>3</sup>The prior DOT OST guidance identified \$9.4 million as the VSL to be used for DOT analyses using a base year of 2013: <https://www.transportation.gov/resources/2015-revised-value-of-a-statistical-life-guidance>

timating the potential reduction or mitigation of future incidents, and may include estimating the reduction in fatality risk. In addition to saved lives, PHMSA attempts to identify, quantify and monetize the impact on preventable injuries, avoidable property and environmental damages, and preventable economic losses that could be attributed to its proposed safety provisions.

As discussed previously, PHMSA uses DOT's latest \$9.6 million VSL estimate for each life a proposed rule could potentially save. DOT's 2016 guidance also includes a table of relative values of preventing injuries of varied severity as a fraction of the VSL.<sup>4</sup> To monetize other preventable impacts, including property or environmental damage, PHMSA uses a variety of sources such as accident and incident data submitted to PHMSA, reports from law enforcement agencies or investigative boards, and insurance claim data, if available.

- c. In determining benefits, does PHMSA include the prevention or mitigation of past accidents? If so, how is this calculated?

**ANSWER.** PHMSA's rulemakings are directed at reducing or mitigating future incidents. However, in measuring this future improvement in safety, PHMSA will often attempt to assess whether a rulemaking would have prevented or mitigated relevant past accidents in determining the benefits of a proposed provision if we can establish a causal relationship between accidents and the provision. The key question we ask is this: if the provision was in place prior to a past accident, would the regulation prevent the accidents or would it have mitigated its consequences? Once we answer it satisfactorily, then we can determine the effectiveness of the provision and calculate how many lives would have been saved, which injuries, property or environmental damages would have been prevented, assuming they may continue to occur in the absence of the rule.

- d. Please explain how human lives are factored into this analysis.

**ANSWER.** PHMSA's benefit analyses are driven by risk reduction assessments for each proposed rule. If we can determine that a new PHMSA rule would reduce fatality risks, then the evaluation of these benefits, measured in number of lives saved, will be the key part of our benefit analysis. For example, if we can show that one new pipeline safety requirement would save two lives each year after its implementation, we can estimate annual undiscounted benefits of this provision at \$19.2 million (\$9.6 million x 2) using DOT's 2016 VSL value.

QUESTION FROM HON. DANIEL LIPINSKI FOR HON. HOWARD "SKIP" ELLIOTT

You stated that the issue of providing emergency responders with information about commodities moving through the communities they serve is "a topic that we need to address more fully."

**Question 4.** Please explain what you meant by this response and what the agency can do to meet these needs.

**ANSWER.** Access to information about commodities moving through communities by pipeline assists emergency responders when responding to an incident. Pipeline operators maintain information about what types of commodities they transport and make it available to PHMSA and other agencies, such as the Federal Energy Regulatory Commission (FERC) and the Department of Energy (DOE). In accordance with the PIPES Act of 2016, Safety Data Sheets containing detailed information on the commodity transported by a pipeline are required by law to be provided to emergency responders within six hours following a spill incident (Pub. L. 114-183, Sec. 14). Operators have indicated that this time is needed to determine a specific product given batching in multiproduct pipelines. PHMSA understands that the American Petroleum Institute and the Association of Oil Pipe Lines have made their members aware of this requirement and PHMSA has briefed the National Response Team as well. Although section 14 of the PIPES Act requiring Safety Data Sheets is self-executing and no rulemaking was required to implement it, PHMSA is considering rulemaking to place a conforming rule in title 49, Code of Federal Regulations, to help broaden awareness. Finally, PHMSA has advanced other opportunities to strengthen contacts between emergency responders and operators including public awareness programs and PHMSA provides emergency responders with access to ap-

<sup>4</sup> "Table 3: Relative Disutility Factors by Injury Severity Level (MAIS) For Use with 3% or 7% Discount Rate", page 10, Guidance on Treatment of the Economic Value of a Statistical Life (VSL) in U.S. Department of Transportation Analyses—2016 (MAIS 1-Minor: 0.003 of VSL, MAIS 2-Moderate: 0.047 of VSL, **MAIS 3-Serious: 0.105 of VSL, or \$1.01 million**, MAIS 4-Severe: 0.266 of VSL, MAIS 5-Critical: 0.593 of VSL, MAIS 6-Unsurvivable: 1.000 of VSL).

propriate response resources including response planning exercises and response training resources.

QUESTIONS FROM HON. LIZZIE FLETCHER FOR HON. HOWARD “SKIP” ELLIOTT

*Question 5.* Has a shortage in staffing among technical staff and those involved in the rulemaking process contributed to PHMSA’s slowness in issuing rules proscribed by congressional mandate that date back to 2011?

*ANSWER.* Completing rulemakings takes time simply because it is an iterative process that is designed to encourage maximum participation by all stakeholders, thus ensuring comprehensive rules that protect the public and stand up to cost/benefit scrutiny. Collaboration with stakeholders allows PHMSA to identify concerns and potential solutions so we can allocate our existing resources where they are needed most.

*Question 6.* Do you feel that PHMSA would function more efficiently when it came to rulemaking with increased staffing?

*ANSWER.* As noted in the Administrator’s testimony, completing rulemakings takes time simply because it is an iterative process that is designed to encourage maximum participation by all stakeholders, thus ensuring comprehensive rules that protect the public and stand up to cost/benefit scrutiny. Collaboration with stakeholders allows PHMSA to identify concerns and potential solutions so we can allocate our existing resources where they are needed most.

*Question 7.* Has the agency made use of all the available authorities that would help PHMSA compete against the private industry to hire and retain talented Federal workers?

*ANSWER.* Yes, PHMSA has used several innovative hiring techniques including: recruiting under titles that tend to attract larger candidate pools; increased outreach to colleges and universities; placing veterans, that with added training can become qualified inspectors faster; and leveraging direct hiring authority. Under my direction, the agency has prioritized filling all open inspector vacancies. Our direct-hire authority allows PHMSA to quickly employ qualified candidates, fill any existing staffing gaps and automatically transform the sometimes time consuming government hiring process to a more efficient form of recruiting. Direct-hire authority also provides PHMSA the opportunity to reach highly qualified candidates with no other means to earn a federal position. PHMSA has been successful in its efforts to hire and retain qualified inspection engineers and currently has 200 pipeline inspection and enforcement personnel currently on board and is in the process of hiring an additional 14.

QUESTIONS FROM HON. MIKE BOST FOR HON. HOWARD “SKIP” ELLIOTT

*Question 8.* Some operator safety information is treated as confidential, which means it cannot be shared with other operators. What utility could an agency-sponsored voluntary information sharing program that distributes non-attributable safety information provide the agency, partners, industry and other stakeholders in improving pipeline safety? Could such program supplement existing safety efforts? Could it in certain circumstance help the agency achieve its safety objectives without the need for formal rulemaking?

*ANSWER.* Sharing incident data through such a program would assist in furthering PHMSA’s safety goals. In December 2016, PHMSA established a Voluntary Information-Sharing System Working Group (VIS WG), which was charged with studying information-sharing systems for the pipeline industry and providing recommendations to the Secretary of Transportation on the necessity of a sharing system, ways to encourage the exchange of information, and best practices for the protection of proprietary and security-sensitive information.

The VIS WG plans to submit its recommendation report to the Secretary in the near future. The VIS WG established seven subcommittees to help develop recommendations in these areas: Best Practices; Regulatory, Funding & Legal; Governance Structure; Competency, Awareness, and Training; Process for Sharing Information; Technology; and Research and Development.

*Question 9.* Do you believe that current criminal penalties codified at 49 U.S.C. § 60123 are sufficient to deter criminal acts that fall short of current legal interpretations related to damaging or destroying a facility, but may nonetheless put human life, property or the environment at risk?

*ANSWER.* While the current criminal penalties codified at 49 U.S.C. § 60123 are generally sufficient to deter people from damaging or destroying an operational pipeline facility, their applicability to the act of disrupting the construction of a

pipeline is unclear. As a result, the current statute may not sufficiently deter this type of act.

QUESTION FROM HON. STEPHEN F. LYNCH FOR HON. JENNIFER HOMENDY

*Question 1.* Ms. Homendy, when exactly do you anticipate the NTSB issue the final report for the Merrimack Valley Explosion incident? Would the committee be able to receive a copy of that report?

*ANSWER.* Congressman Lynch, our goal is to complete the Merrimack Valley investigation this September, before the one-year anniversary. We will provide you and the Committee a copy of the final report once it is adopted by the Board. Additionally, at that time, we would be glad to brief you on our findings.

QUESTION FROM HON. MIKE BOST FOR ANDREW J. BLACK

*Question 1.* Do you believe that current criminal penalties codified at 49 U.S.C. § 60123 are sufficient to deter criminal acts that fall short of current legal interpretations related to damaging or destroying a facility, but may nonetheless put human life, property or the environment at risk?

*ANSWER.* Current criminal penalties codified at 49 U.S.C. § 60123 do not protect human life, property or the environment from criminal acts against interstate pipeline facilities. Current federal law contains loopholes that assailants are exploiting to escape accountability for dangerous attacks on pipelines. AOPL urges Congress deter future attacks against pipeline facilities by closing loopholes in the scope of criminal liability in current federal pipeline safety law.

In October 2016, anti-pipeline activists staged simultaneous attacks on 5 crude oil pipelines in 4 states along the U.S.-Canada border. Assailants targeted valve stations maintained by pipeline operators to stop the flow of product through the pipeline when necessary to conduct maintenance or isolate a pipeline segment during an emergency.

After breaking the chains and locks on perimeter fencing, assailants entered the facility grounds and turned valves shutting off the flow of pipelines that together had a delivery capacity of 2.8 million barrels of crude oil a day, or around 15 percent of daily U.S. consumption. In some cases, the assailants by telephone notified the pipeline operators of their actions, who shut down the pipeline flow from their control centers as a safety precaution. In 2017, assailants again targeted for attack the same pipeline facility attacked in 2016 in Washington State. In 2019, assailants attacked another pipeline in northern Minnesota.

Other assailants admitted using acetylene torches to pierce holes in a major pipeline under construction in Iowa and South Dakota, threatening a release if the pipeline went into service without repairs.

After the 2016 attacks, Carl Weimer, Executive Director of the Pipeline Safety Trust, the preeminent public advocacy group for pipeline safety, said,

“[w]hile we certainly understand the activists concerns with the lack of speed to address climate change we think that illegally closing valves is a dangerous stunt that really does little to address these people’s concerns. The Pipeline Safety Trust was founded in part because a valve closed unexpectedly causing a pressure surge that ruptured a pipeline killing three young men. Closing valves on major pipelines can have unexpected consequences endangering people and the environment. We do not support this type of action, and think it is dangerous.”

Public safety is threatened during attacks on pipelines, even if only closing a pipeline valve, because improper closure of pipeline valves can cause a pressure surge from the mass and momentum of the liquid traveling through the pipeline, potentially resulting in a rupture and release.

While no releases resulted from the 2016, 2017 or 2019 pipeline valve attacks, the U.S. Government Accountability Office confirmed the risk of rupture from improper valve operation in a Congressionally mandated 2013 report. Pipeline operators have documented 9 pipeline incidents from conditions similar to an improper valve closure, one resulting in an 1,100 barrel diesel fuel release and another resulting in a nearly 4,000 barrel natural gas liquids release. A crude oil pipeline release of this magnitude could cause serious harm to the assailants, harm members and property of the surrounding public and harm the environment.

Current Federal statute at 49 USC § 60123 prohibiting damaging or destroying interstate pipeline infrastructure does not address changing tactics that are nonetheless dangerous to the assailants, public safety and the environment. Under § 60123, the guilty conduct making the action illegal must include “damaging” or “destroying” the interstate pipeline facility. These terms are commonly defined re-



spectively as causing physical harm to something in such a way as to impair its value, usefulness, or normal function and damaging something so badly that it cannot be repaired.

Several of the recent attacks against interstate pipelines neither damaged nor destroyed the facilities. The valve turnings, while a dangerous threat to the assailants, public and environment, did not damage or destroy the valves. Several more recent attacks, which did cause physical damage to pipelines, occurred at locations where the pipeline was still under construction and not yet operating as an interstate pipeline. State legislatures are acting to close gaps in their statutes protecting pipelines and infrastructure. States are extending criminal penalties to tampering with, impeding or inhibiting the operation of pipeline infrastructure. Congress should plug the same loopholes in federal law.

AOPL does not recommend any limits on free speech or the right to protest peacefully. Similarly, AOPL does not seek an extension of criminal penalties beyond the assailants and their specific dangerous activities to other organizations or causes. AOPL recommends Congress update federal law at 49 USC § 60123 to:

1. criminalize interfering with the operations of interstate pipeline facilities
2. criminalize attacks on interstate pipelines under construction

QUESTION FROM HON. DONALD M. PAYNE, JR. FOR FIRE CHIEF DAN EGGLESTON,  
EFO, CFO, CMO

I understand the IAFC prepares programs to assist LEPCs in strengthening their pipeline incident preparedness efforts.

*Question 1.* Please describe some of those programs, including how they were developed and their benefits to the LEPCs and impacted communities.

*ANSWER.* The IAFC performs training of communities to help them prepare for potential pipeline incidents in coordination with both commercial partners and the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA).

Since 2013, the IAFC has partnered with TransCanada to provide preparedness for pipeline emergency training to local communities. This training consists of a presentation; town hall meeting; review and preparation of an emergency plan; and table-top exercise. The second element, the Regional Town Hall meeting, is comprised of an open dialogue about pipeline emergency response, which includes discussions about:

- accessing information in the National Pipeline Mapping System;
- formulating a pre-plan response checklist;
- identifying emergency responder priorities;
- communicating community needs;
- identifying hazardous materials and transportation methods;
- and buttressing response preparation and capability.

Our other programs are funded by the Community Safety Grant, first authorized in 2015 by the FAST Act (PL 114-94) and administered by PHMSA. The IAFC's Community Safety-Emergency Planning, Response and Outreach (CS-EPRO) program provides responder training and preparedness for hazardous materials incident response. This grant enables us to provide training and resources to LEPCs that improves their emergency planning and response expertise. The programs supported by the Community Safety Grant can be applied to any type of hazardous material transportation, including rail, pipeline and vehicle transportation. The IAFC supports the reauthorization of this grant when its authorization expires in 2020.

The IAFC also advocates for the inclusion of non-profits as eligible entities for the Technical Assistance Grants administered by PHMSA. As the only pipeline-specific grants administered by PHMSA, the TAG offer significant opportunities for non-profit organizations like ours to conduct pipeline safety-oriented training for local responders and LEPCs.

The IAFC looks forward to working with the Committee and Subcommittee to improve the safety of the nation's pipeline system and promote first responder preparedness and training to reduce the impact of pipeline incidents when they occur.