THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

April 2, 2018

The Honorable John Thune
Chairman, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

This letter report to Congress constitutes the response required by Section 19(c) of the "Pipeline Safety Improvement Act of 2002," Pub. L. No. 107-355, 116 Stat. 3009 (December 17, 2002). The report details the new recommendations on pipeline safety made by the National Transportation Safety Board (NTSB) and sent to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in Fiscal Year (FY) 2017.

PHMSA received two NTSB safety recommendations on pipeline safety in FY 2017. These recommendations, P-17-001 and P-17-002, were the result of the NTSB investigation of a leaking Colonial Pipeline Company pipeline in Centreville, Virginia, discovered on September 21, 2015. PHMSA responded to NTSB on both recommendations with the enclosed letter.

The U.S. Department of Transportation works diligently to close NTSB safety recommendations by exercising a variety of regulatory and nonregulatory approaches within the appropriate timelines allowed, including technical assessment, notice of proposed rulemaking soliciting public comment, outreach, and due diligence.

Similar letter reports have been sent to the Ranking Member of the Senate Committee on Commerce, Science, and Transportation; to the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure; and to the Chairman and Ranking Member of the House Committee on Energy and Commerce.

Sincerely,

Elaine L. Chao

Enclosure

THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

April 2, 2018

The Honorable Bill Nelson
Ranking Member, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

Dear Senator Nelson:

This letter report to Congress constitutes the response required by Section 19(c) of the "Pipeline Safety Improvement Act of 2002," Pub. L. No. 107-355, 116 Stat. 3009 (December 17, 2002). The report details the new recommendations on pipeline safety made by the National Transportation Safety Board (NTSB) and sent to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in Fiscal Year (FY) 2017.

PHMSA received two NTSB safety recommendations on pipeline safety in FY 2017. These recommendations, P-17-001 and P-17-002, were the result of the NTSB investigation of a leaking Colonial Pipeline Company pipeline in Centreville, Virginia, discovered on September 21, 2015. PHMSA responded to NTSB on both recommendations with the enclosed letter.

The U.S. Department of Transportation works diligently to close NTSB safety recommendations by exercising a variety of regulatory and nonregulatory approaches within the appropriate timelines allowed, including technical assessment, notice of proposed rulemaking soliciting public comment, outreach, and due diligence.

Similar letter reports have been sent to the Chairman of the Senate Committee on Commerce, Science, and Transportation; to the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure; and to the Chairman and Ranking Member of the House Committee on Energy and Commerce.

Sincerely,

Elaine L. Chao

Enclosure

THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

April 2, 2018

The Honorable Bill Shuster
Chairman, Committee on Transportation
and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter report to Congress constitutes the response required by Section 19(c) of the "Pipeline Safety Improvement Act of 2002," Pub. L. No. 107-355, 116 Stat. 3009 (December 17, 2002). The report details the new recommendations on pipeline safety made by the National Transportation Safety Board (NTSB) and sent to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in Fiscal Year (FY) 2017.

PHMSA received two NTSB safety recommendations on pipeline safety in FY 2017. These recommendations, P-17-001 and P-17-002, were the result of the NTSB investigation of a leaking Colonial Pipeline Company pipeline in Centreville, Virginia, discovered on September 21, 2015. PHMSA responded to NTSB on both recommendations with the enclosed letter.

The U.S. Department of Transportation works diligently to close NTSB safety recommendations by exercising a variety of regulatory and nonregulatory approaches within the appropriate timelines allowed, including technical assessment, notice of proposed rulemaking soliciting public comment, outreach, and due diligence.

Similar letter reports have been sent to the Ranking Member of the House Committee on Transportation and Infrastructure; the Chairman and Ranking Member of the Senate Committee on Commerce, Science, and Transportation; and to the Chairman and Ranking Member of the House Committee on Energy and Commerce.

Sincerely,

Elaine L. Chao

Enclosure

THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

April 2, 2018

The Honorable Peter A. DeFazio
Ranking Member, Committee on Transportation
and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Congressman DeFazio:

This letter report to Congress constitutes the response required by Section 19(c) of the "Pipeline Safety Improvement Act of 2002," Pub. L. No. 107-355, 116 Stat. 3009 (December 17, 2002). The report details the new recommendations on pipeline safety made by the National Transportation Safety Board (NTSB) and sent to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in Fiscal Year (FY) 2017.

PHMSA received two NTSB safety recommendations on pipeline safety in FY 2017. These recommendations, P-17-001 and P-17-002, were the result of the NTSB investigation of a leaking Colonial Pipeline Company pipeline in Centreville, Virginia, discovered on September 21, 2015. PHMSA responded to NTSB on both recommendations with the enclosed letter.

The U.S. Department of Transportation works diligently to close NTSB safety recommendations by exercising a variety of regulatory and nonregulatory approaches within the appropriate timelines allowed, including technical assessment, notice of proposed rulemaking soliciting public comment, outreach, and due diligence.

Similar letter reports have been sent to the Chairman of the House Committee on Transportation and Infrastructure; to the Chairman and Ranking Member of the Senate Committee on Commerce, Science, and Transportation; and to the Chairman and Ranking Member of the House Committee on Energy and Commerce.

Sincerely,

E. L. Chao

Elaine L. Chao

Enclosure

THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

April 2, 2018

The Honorable Greg Walden
Chairman, Committee on Energy
and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

This letter report to Congress constitutes the response required by Section 19(c) of the "Pipeline Safety Improvement Act of 2002," Pub. L. No. 107-355, 116 Stat. 3009 (December 17, 2002). The report details the new recommendations on pipeline safety made by the National Transportation Safety Board (NTSB) and sent to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in Fiscal Year (FY) 2017.

PHMSA received two NTSB safety recommendations on pipeline safety in FY 2017. These recommendations, P-17-001 and P-17-002, were the result of the NTSB investigation of a leaking Colonial Pipeline Company pipeline in Centreville, Virginia, discovered on September 21, 2015. PHMSA responded to NTSB on both recommendations with the enclosed letter.

The U.S. Department of Transportation works diligently to close NTSB safety recommendations by exercising a variety of regulatory and nonregulatory approaches within the appropriate timelines allowed, including technical assessment, notice of proposed rulemaking soliciting public comment, outreach, and due diligence.

Similar letter reports have been sent to the Ranking Member of the House Committee on Energy and Commerce; to the Chairman and Ranking Member of the Senate Committee on Commerce, Science, and Transportation; and to the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure.

Sincerely,

Elaine L. Chao

Enclosure

THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

April 2, 2018

The Honorable Frank Pallone, Jr.
Ranking Member, Committee on Energy
and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Congressman Pallone:

This letter report to Congress constitutes the response required by Section 19(c) of the "Pipeline Safety Improvement Act of 2002," Pub. L. No. 107-355, 116 Stat. 3009 (December 17, 2002). The report details the new recommendations on pipeline safety made by the National Transportation Safety Board (NTSB) and sent to the Pipeline and Hazardous Materials Safety Administration (PHMSA) in Fiscal Year (FY) 2017.

PHMSA received two NTSB safety recommendations on pipeline safety in FY 2017. These recommendations, P-17-001 and P-17-002, were the result of the NTSB investigation of a leaking Colonial Pipeline Company pipeline in Centreville, Virginia, discovered on September 21, 2015. PHMSA responded to NTSB on both recommendations with the enclosed letter.

The U.S. Department of Transportation works diligently to close NTSB safety recommendations by exercising a variety of regulatory and nonregulatory approaches within the appropriate timelines allowed, including technical assessment, notice of proposed rulemaking soliciting public comment, outreach, and due diligence.

Similar letter reports have been sent to the Chairman of the House Committee on Energy and Commerce; to the Chairman and Ranking Member of the Senate Committee on Commerce, Science, and Transportation; and to the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure.

Sincerely,

Elaine L. Chao

Enclosure

U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Ave., S.E.
Washington, DC 20590

September 29, 2017

The Honorable Robert L. Sumwalt, III
Acting Chairman
National Transportation Safety Board
490 L'Enfant Plaza East, SW
Washington, DC 20594

Dear Acting Chairman Sumwalt:

I am writing to update you on the status of actions taken to-date by the Pipeline and Hazardous Materials Safety Administration (PHMSA) and our intended actions to address the recommendations following the National Transportation Safety Board's (NTSB) accident report, *Colonial Pipeline Company Petroleum Product Leak*, following the September 21, 2015, Centreville, Virginia, incident.

The mission of PHMSA 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. PHMSA shares the NTSB's commitment to preventing accidents and saving lives. PHMSA has a long history of cooperating and collaborating with the NTSB, and we take seriously our responsibility to address all of the Board's recommendations.

The NTSB accident report on the Centreville, Virginia, petroleum leak identified "the probable cause of the release [...] 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." Colonial had previously examined the dent and did not find any cracks. Although this dent did not exceed the prescriptive repair criteria in 49 CFR Part 195, PHMSA's performance-based Integrity Management (IM) regulations supplement prescriptive safety requirements and set systemic performance requirements for operators. IM is based on practices employed by many safety-oriented organizations, whereby safety is continually improved through an iterative process of collecting data, identifying and prioritizing risks, undertaking corrective actions, and assessing performance. PHMSA requires operators to address risks to pipeline safety based on risk assessment of their own unique operating characteristics that extend beyond PHMSA's prescriptive minimum requirements.

PHMSA notes that dent-related failures are relatively rare, with the majority of these spill volumes below 100 barrels and from a small number of pipeline systems. Since the Pipeline Safety Regulations (49 CFR Parts 192 and 195) already address risks to pipeline integrity, we believe that new regulations would not efficiently address this issue and that there are not enough dent-related incidents to justify a rulemaking. From 2001 to 2017, PHMSA's accident/incident

reports show that dents were a contributing factor in, on average, only two hazardous liquid accidents and one gas transmission incident per year, out of an average of over 600 accidents/incidents total among all pipeline system types.[1] The dent-related accident/incidents have been caused in most cases by poor pipeline construction techniques, operational or third-party damage events, and improper past remediation associated with other pipeline-specific factors such as pipe materials, wall thickness, and diameter. Additionally, the majority of these hazardous liquid accidents are confined to a small number of operators' particular pipeline systems, so wider regulations may not be necessary for the majority of other pipeline systems.

When an operator has a pipeline with a leak or rupture, whether caused by a dent or another pipeline-defect factor, PHMSA reviews the causes of the accident/incident and determines if an order is required to mandate that the operator conduct corrective actions to identify and mitigate integrity issues. Sometimes, these actions include additional pipeline system-specific inspections, different integrity assessment methods, procedural or process changes, training and any other needed remediation techniques to eliminate recurrence of a similar release.

In summary, pipeline operators are required to know and understand the unique operating environments and inherent risks of each of their pipeline systems. PHMSA challenges operators to focus on performance and aim beyond the minimum compliance standards established through pipeline safety regulations, to ensure the safety of the public that lives and works around pipelines.

RESPONSES TO THE NTSB SAFETY STUDY RECOMMENDATIONS:

Below are PHMSA's responses to the specific NTSB recommendations contained in the Safety Study.

Safety Recommendation P-17-1

Recommendation: *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.*

Response: Concur. PHMSA agrees that working with industry and standards organizations to ensure that dent acceptance criteria accounts for all pipeline failure dent factors is an important step. Other dent factors include information such as steel properties, wall thickness, orientation, pipe diameter, and operating pressure and pressure cycles. PHMSA will work with the standards organizations to identify if there are pipeline-specific factors that correlate to the occurrence of pipeline failures for dent sizes less than the PHMSA-mandated acceptance criteria. Based on the information, we will identify next steps in assuring dents, and dent related threats are appropriately mitigated to assure safety. We anticipate completing this action by August 2019.

[1] Per PHMSA's publicly-available reported accident/incident reports, including Hazardous Liquid and Gas Transmission, Distribution, and Gathering systems. (https://www.phmsa.dot.gov/pipeline/library/data-stats/pipelineincidenttrends)

Safety Recommendation P-17-2

Recommendation: *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.*

Response: Propose alternative action. PHMSA's current hazardous liquid pipeline regulations already require operators to correct conditions in a high consequence area (HCA) that could adversely affect the safe operation of their pipeline systems "within a reasonable time" under §§ 195.401(b)(1), and (2) otherwise make immediate repairs for imminent hazards. Operators are also required to analyze pipeline accidents and failures to determine their causes and take actions to prevent recurrence under §195.402(c)(5) and §192.617. Additionally, under § 195.452(h)(4)(iv), operators must evaluate any conditions identified by an assessment or analysis that could impair the integrity of the pipeline and schedule the condition for remediation within the time periods prescribed. With respect to dent conditions, PHMSA currently requires all dents to be remediated in HCAs if they exceed a depth greater than two-percent of the pipeline's diameter if located on the top of the pipe or six-percent if located at the bottom of the pipe. Any topside dent with a crack or metal loss must also be repaired. These criteria have been mandated by PHMSA since December 1, 2000, and appear to have been generally effective in lowering dent-related spills.

As noted above, according to PHMSA data, the hazardous liquid pipeline accident rate from dents is about two per year, with a majority of these discharging under 100 barrels of product. With the advent of new, more sensitive in-line inspection tools, a pipeline operator can now identify many dents in pipeline systems that are much smaller than our current repair criteria. PHMSA believes that, based on currently available information, additional regulations requiring operators to excavate, evaluate, and repair *all* dent defects would be impracticable under the cost/benefit evaluation required by the Pipeline Safety Act.

To promote greater pipeline safety related to dent evaluation and remediation, PHMSA proposes that the NTSB accept the following alternative actions:

- Issue an advisory bulletin to pipeline operators concerning procedures and remediation to be used when dents are found, in both HCAs and non-HCAs, highlighting factors that lead to dent cracking, such as depth, stress-concentration areas, soil conditions, restrained and unrestrained dents, interacting threats such as longitudinal and girth welds near the dent, past and future pressure cycling, and pipe properties such as toughness, pipe diameter to wall thickness ratio (D/t) ratio, and seam type and location; the advisory will also remind operators of their responsibility to consider all available information when evaluating threats and take action beyond the minimal safety requirements to address safety risks;

- Incorporate the results of shallow dent accident/incident root cause or metallurgical analyses by educating inspectors on dent risks, providing additional inspector guidance, and focusing our inspections on the use of proper assessment tools, dent evaluation and repair criteria, and remediation (if needed); and,

- Work with standards organizations to incorporate any recommended practices developed from ongoing accident/incident root cause or metallurgical analyses that promote increased pipeline safety from improved evaluations of in-service shallow dents. We anticipate completing these actions by August 2019.

Regarding the installation of external leak-detection systems, PHMSA's data does not support the suggestion that every dent represents an integrity threat that may result in a leak, and PHMSA does not believe a mandate to put an external leak detection system at every unrepaired dent is warranted. Further, PHMSA believes that the cost/benefit evaluation required by the Pipeline Safety Act would preclude the establishment of a new regulatory requirement for installation of a leak detection system at every dent. For these reasons, we do not concur with the part of the recommendation that PHMSA require operators to install a leak detection system that continually monitors for hydrocarbons at every unrepaired dent location.

CONCLUSION

PHMSA is committed to continued improvements in pipeline safety, and we take seriously our responsibility to address all NTSB recommendations. We think the recommended actions discussed above address the Board's safety concerns to prevent similar future incidents. We will continue to work with your office in the future as we continue our efforts to ensure the safe, reliable, and environmentally sound operation of the Nation's pipeline transportation system.

If you have any questions or require additional information, please do not hesitate to contact me at 202-366-4433. I hope this information is useful.

Sincerely,

Drue Pearce

Ms. Drue Pearce
Acting Administrator