



THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

August 11, 2016

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

Dear Mr. Chairman:

I am pleased to submit the annual report titled National Transportation Safety Board (NTSB) Calendar Year (CY) 2015 Recommendations on Pipeline Safety, as required by Section 19(c) of the Pipeline Safety Improvement Act of 2002 (Pub. L. No. 107-355). The enclosed report fulfills the requirement to provide the pipeline safety recommendations that NTSB made during the prior year, as well as a copy of the response for each recommendation.

As of December 31, 2015, NTSB issued 22 safety recommendations to PHMSA during CY 2015, as listed on the report that is enclosed with this letter, along with our responses. We take our responsibility to address all recommendations seriously, and will continue to work aggressively to close all open recommendations.

I have sent a similar letter to the Ranking Member of the Senate Committee on Commerce, Science, and Transportation; the Chairman and the Ranking Member of the House Committee on Energy and Commerce; and the Chairman and the Ranking Member of the House Committee on Transportation and Infrastructure.

If I can provide further information or assistance, please feel free to call me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Anthony R. Foxx", is positioned below the word "Sincerely,".

Anthony R. Foxx

Enclosure



THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

August 11, 2016

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

Dear Senator Nelson:

I am pleased to submit the annual report titled National Transportation Safety Board (NTSB) Calendar Year (CY) 2015 Recommendations on Pipeline Safety, as required by Section 19(c) of the Pipeline Safety Improvement Act of 2002 (Pub. L. No. 107-355). The enclosed report fulfills the requirement to provide the pipeline safety recommendations that NTSB made during the prior year, as well as a copy of the response for each recommendation.

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Anthony R. Foxx

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THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

August 11, 2016

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

Dear Mr. Chairman:

I am pleased to submit the annual report titled National Transportation Safety Board (NTSB) Calendar Year (CY) 2015 Recommendations on Pipeline Safety, as required by Section 19(c) of the Pipeline Safety Improvement Act of 2002 (Pub. L. No. 107-355). The enclosed report fulfills the requirement to provide the pipeline safety recommendations that NTSB made during the prior year, as well as a copy of the response for each recommendation.

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Anthony R. Foxx

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THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

August 11, 2016

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

Dear Congressman DeFazio:

I am pleased to submit the annual report titled National Transportation Safety Board (NTSB) Calendar Year (CY) 2015 Recommendations on Pipeline Safety, as required by Section 19(c) of the Pipeline Safety Improvement Act of 2002 (Pub. L. No. 107-355). The enclosed report fulfills the requirement to provide the pipeline safety recommendations that NTSB made during the prior year, as well as a copy of the response for each recommendation.

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I have sent a similar letter to the Chairman of the House Committee on Transportation and Infrastructure; the Chairman and Ranking Member of the Senate Committee on Commerce, Science, and Transportation; the Chairman and the Ranking Member of the House Committee on Energy and Commerce.

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THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

August 11, 2016

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

Dear Mr. Chairman:

I am pleased to submit the annual report titled National Transportation Safety Board (NTSB) Calendar Year (CY) 2015 Recommendations on Pipeline Safety, as required by Section 19(c) of the Pipeline Safety Improvement Act of 2002 (Pub. L. No. 107-355). The enclosed report fulfills the requirement to provide the pipeline safety recommendations that NTSB made during the prior year, as well as a copy of the response for each recommendation.

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Anthony R. Foxx

Enclosure



THE SECRETARY OF TRANSPORTATION
WASHINGTON, DC 20590

August 11, 2016

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

Dear Congressman Pallone:

I am pleased to submit the annual report titled National Transportation Safety Board (NTSB) Calendar Year (CY) 2015 Recommendations on Pipeline Safety, as required by Section 19(c) of the Pipeline Safety Improvement Act of 2002 (Pub. L. No. 107-355). The enclosed report fulfills the requirement to provide the pipeline safety recommendations that NTSB made during the prior year, as well as a copy of the response for each recommendation.

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I have sent a similar letter to the Chairman of the House Committee on Energy and Commerce; the Chairman and the Ranking Member of the Senate Committee on Commerce, Science, and Transportation; and the Chairman and the Ranking Member of the House Committee on Transportation and Infrastructure.

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Enclosure

**ANNUAL REPORT: NATIONAL TRANSPORTATION SAFETY BOARD CY 2015
RECOMMENDATIONS ON PIPELINE SAFETY**

NTSB Safety Recommendation P-15-1

Recommendation: *Assess (1) the need for additional inspection protocol guidance for state inspectors, (2) the adequacy of your existing mentorship program for these inspectors, and (3) the availability of your subject matter experts for consultation with them, and implement the necessary improvements.*

Response: PHMSA will propose closure of this recommendation to NTSB. PHMSA assessed the need for additional inspection materials and protocols for state inspectors. Additional information on the resources available to inspectors was added to Section 5.1.4.d of the *2016 Guidelines for States Participating in the Pipeline Safety Program (Guidelines)* distributed to State Programs on December 29, 2015. Additionally, PHMSA will use its responses to various NTSB Gas Integrity Management (IM) Safety Study Report recommendations to update the inspection materials.

PHMSA assessed the adequacy of the existing mentorship program for state inspectors. PHMSA used the results of this assessment to update the formal process by which states may consult with PHMSA subject matter experts (SME). Specifically, PHMSA added language to Section 5.1.4.d of the *2016 Guidelines* to document the process by which state inspectors may obtain SME support.

Please see Section 4.4 and Appendix H of the *2016 Guidelines* for information on the mentorship program.

(http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/2016_State_Guidelines_Final_Version_2015_12_31_with_Appendices.pdf)

NTSB Safety Recommendation P-15-2

Recommendation: *Modify the overall state program evaluation, training, and qualification requirements for state inspectors to include Federal-To-State coordination in integrity management inspections.*

Response: PHMSA will propose closure of this recommendation to NTSB. PHMSA modified Section 5.1.3.a of the draft *2016 Guidelines* to add information regarding the availability of PHMSA personnel to provide technical support to state inspectors, including in the context of integrity management inspections. PHMSA also established a process to conduct Federal-to-State inspections within and outside of an inspector's home state. The *2016 Guidelines* were finalized and distributed to states on December 29, 2015.

(http://phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/2016_State_Guidelines_Final_Version_2015_12_31_with_Appendices.pdf)

PHMSA will continue to publicize this new information during meetings and discussions with the National Association of Pipeline Safety Representatives (NAPSR). PHMSA will also continue to encourage states to coordinate with PHMSA on inspections, including integrity management inspections, and to facilitate that coordination through state liaisons.

NTSB Safety Recommendation P-15-3:

Recommendation: *Work with the NAPSR to develop and implement a program to formalize, publicize, and facilitate increased state-to-state coordination in integrity management inspections.*

Response: PHMSA will propose closure of this recommendation to NTSB. Please see PHMSA's response to NTSB Safety Recommendation P-15-2, which describes PHMSA strategies for publicizing and facilitating increased coordination at NAPSR meetings.

On April 12, 2016, the Director of State Programs emailed an "Operator Coordination Report" to all States. This report was developed to be used by states and PHMSA to see whether other states have operators in common to help facilitate the coordination of inspections. This report also allows states to see whether they have operators in common with PHMSA.

PHMSA also supports an internal NAPSR website where states can share information to facilitate increased state-to-state coordination in integrity management inspections.

NTSB Safety Recommendation P-15-4:

Recommendation: *Increase the positional accuracy of pipeline centerlines and pipeline attribute details relevant to safety in the National Pipeline Mapping system.*

Response: Since 2014, PHMSA has taken a series of steps to address the positional accuracy of data contained in the National Pipeline Mapping System to help emergency responders more effectively locate a pipeline to the degree needed to respond to environmental and integrity threats and help in emergency planning. PHMSA first published a Federal Register notice (Notice), entitled "Request for Revision of a Previously Approved Information Collection -- NPMS Program"¹, which invited public comment on PHMSA's intent to revise and renew an information collection of the National Pipeline Mapping System Program (NPMS), which would require pipeline operators to submit data with improved positional accuracy. Subsequently, PHMSA held a public workshop on November 17, 2014, to address this and other geospatial information collection initiatives. Information on the workshop is available on PHMSA's public website: <http://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=101>.

PHMSA published a second notice, entitled, "Request for Revision of a Previously Approved Information Collection - NPMS Program,"² which invited public comment on improved positional accuracy of pipeline maps, and other pipeline attribute details. These details include pipe diameter (currently an optional submission to the NPMS), operating pressure, pipe grade,

¹ 79 Fed. Reg. 44,246 (July 30, 2014).

² 80 Fed. Reg. 52,084 (Aug 27, 2015).

percent of operating specified minimum yield strength, pipe coating, pipe material, and pipe join method, and decade of construction/installation. PHMSA proposed that gas transmission operators submit data at ± 50 feet accuracy for all segments which are in a Class 2, Class 3, or Class 4 area; within a High Consequence Areas (HCA) or have one or more buildings intended for human occupancy; an identified site (See 49 CFR 192.903); a right-of-way for a designated interstate, freeway, expressway, or other principal four-lane arterial roadway as defined in the Federal Highway Administration's "Highway Functional Classification Concepts" within the segment's potential impact radius. All other gas pipeline segments would be mapped to a positional accuracy of ± 100 feet. As part of the process, PHMSA will review each additional data element to determine the appropriate security classification. PHMSA held a public meeting on this notice on November 18, 2015. The comment period ended on November 25, 2015, and PHMSA is in the process of reviewing the comments. PHMSA published the Information Collection Notice on June 22, 2016.

NTSB Safety Recommendation P-15-5

Recommendation: *Revise the submission requirement to include high consequence area identification as an attribute data element to the National Pipeline Mapping System.*

Response: Please see PHMSA's response to NTSB Safety Recommendation P-15-4, which describes the steps PHMSA has taken since 2014 to improve the quality of the data contained in the NPMS, including specific improvements in data submissions relative to HCAs.

NTSB Safety Recommendation P-15-6

Recommendation: *Assess the limitations associated with the current process for identifying high consequence areas, and disseminate the results of your assessment to the pipeline industry, inspectors, and the public.*

Response: PHMSA has noted that proper identification and periodic verification of an HCA relies on two key types of information: (1) pipeline-specific information that includes the accurate location of the centerline of the pipeline, the nominal diameter of the pipeline, and the pipeline segment's maximum allowable operating pressure; and (2) all the structures and their usage (including occupancy) located along the pipeline. PHMSA is performing an assessment of the impact regarding these two key types of information needed for identifying HCAs. We are on schedule to publish an advisory bulletin, and, if needed, updated inspection protocol guidance, by August 31, 2016.

NTSB Safety Recommendation P-15-7

Recommendation: *Work with the Federal Geographic Data Committee to identify and publish standards and specifications for geospatial data commonly used by gas transmission pipeline operators, and disseminate the standards and specifications to these operators and inspectors.*

Response: PHMSA will propose closure of this recommendation to NTSB. On May 12, 2015, PHMSA advised NTSB that it would meet with the Federal Geographic Data Committee (FGDC) no later than June 30, 2015, to discuss making the current NPMS model and standards available to operators and inspectors. PHMSA also advised NTSB that our security policy requires individually vetting each consumer of raw NPMS data. As such PHMSA does not share NPMS data with the Federal community as a whole, nor does it include the data on distributed datasets such as Highway Safety Improvement Program (HSIP) Gold. PHMSA has not changed its security policy.

On May 27, 2015, PHMSA met with representatives of the FGDC and confirmed that the proposed positional accuracy standard of 50 feet for the majority of pipe segments is in line with FGDC standards. We also confirmed that PHMSA's datum³ is also the same as FGDC standards. While the data collected for the NPMS and the internal data used by operators are significantly different, PHMSA provides a manual of NPMS technical standards to operators, as well as one-on-one operator assistance, when operators prepare submissions to NPMS.

NTSB Safety Recommendation P-15-8:

Recommendation: *Work with the appropriate federal, state, and local agencies to develop a national repository of geospatial data resources for the process for high consequence area identification, and publicize the availability of the repository.*

Response: PHMSA will propose closure of this recommendation to NTSB. PHMSA anticipates new standards for NPMS data collection following the final Information Collection notice, which was published in the Federal Register on June 22, 2016. This followed two previous notices in 2014 and 2015 regarding revision of information collection standards, as described in PHMSA's response to NTSB Recommendation P-15-4. Per our response to Recommendation P-15-7, PHMSA has worked with the Federal Geographic Data Committee (FGDC), whose membership includes the appropriate Federal, state, and local agencies, to evaluate the feasibility of a national geospatial data repository. FGDC advised PHMSA that it does not recommend developing a new repository. A repository already exists that includes five high consequence area (HCA) datasets, of which three are available to the public, and two are available only to pipeline operators, who request them through the NPMS web site.

To meet the intent of the NTSB recommendation, PHMSA has worked with the FGDC to standardize other approaches with the FGDC such as positional accuracy language and North American Datum (NAD) 83 vs NAD 27 datum. PHMSA has standardized its datum to NAD83 to match the FGDC standard, and has implemented all standards mentioned in the FGDC document "Content Standard for Digital Geospatial Metadata." The FGDC National Standard for Spatial Data Accuracy applies only to data that is collected in the field. PHMSA currently does not collect its own data; the data is received from pipeline operators. PHMSA will follow the FGDC's spatial standards if it embarks upon any data collection in the future.

NTSB Safety Recommendation P-15-9:

³ In this context, a datum is a model that describes the earth's shape.

Recommendation: *Establish minimum criteria for eliminating threats, and provide guidance to gas transmission pipeline operators for documenting their rationale for all eliminated threats.*

Response: As part of the NPRM on gas transmission safety published on April 8, 2016, PHMSA proposed to enhance and expand minimum requirements for performing threat identification, including, but not limited to specific requirements to address standards for minimum data sets used, data validation, data integration, subject matter expert bias, and interacting threats. PHMSA believes that these improved requirements may address the root cause of previous shortcomings in threat identification and address this recommendation. To further support the NTSB recommendation, PHMSA plans to issue an Advisory Bulletin by December 1, 2016, to provide guidance to gas transmission pipeline operators for documenting their rationale for all eliminated threats and establish minimum criteria for eliminating threats.

NTSB Safety Recommendation P-15-10:

Recommendation: *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.*

Response: On September 9-10, 2015, PHMSA held a risk modeling workshop to address how operators may move beyond risk index models where needed to improve investigative and forensic capabilities, and to enhance stakeholder engagement. After the September 9-10, 2015, risk modeling workshop, PHMSA established a risk modeling work group that includes industry and other stakeholders, to address perceived shortcomings in the application of certain risk models. The expected outcome of this work group is guidance for operators for the evaluation for interactive threats. This guidance will be communicated to stakeholders through an advisory bulletin. PHMSA originally anticipated publishing guidance by May 31, 2016, however, to allow for critical stakeholder involvement, as discussed during the workshop, we now expect to publish guidance by July 31, 2017.

NTSB Safety Recommendation P-15-11:

Recommendation: *Develop and implement specific risk assessment training for inspectors in verifying the technical validity of risk assessments that operators use.*

Response: PHMSA has identified the portions of its Training Program that would be affected by the training materials specified in P-15-10, P-15-12, and P-15-13 that are currently under development. PHMSA evaluated the impacted portions of its Training & Qualifications (TQ) program and identified portions of the curriculum for improvement. Specifically, PHMSA reviewed the training materials in integrity management (IM) related courses, which include:

- PHMSA-PL3267 Fundamentals of Integrity Management Course
- PHMSA-PL1297 Gas Integrity Management (IM) Protocol Course
- PHMSA-PL2294 Hazardous Liquid IM Protocol Course
- PHMSA-PL1245 Safety Evaluation of Distribution Integrity Management

Web-based training that supplements these courses' materials include:

- WBT-PL1IPROC Integrity Management Processes
- WBT-PL1IRA Introduction to risk assessment methods
- WBT-PL1DIMP Distribution Integrity Management

Improvements in the course materials are directed at facilitating a more effective verification of the technical validity of risk assessments that operators use.

PHMSA TQ is reviewing all of its courses using a Critical Task Selection Board (CTSB) that meets and reviews each course. The purpose of each CTSB meeting is to develop and validate individual and collective tasks required for job performance and critical tasks which inspectors must perform to successfully accomplish their duties. This process uses a Systems Approach to Training (SAT) and occurs in the middle of the Analysis phase of the instructional design model/process, ADDIE (Analysis, Design, Development, Implementation, Evaluation). Our focus within the Analysis phase is on task analysis to develop a critical task list. Critical tasks are those that inspectors (the students) must perform to successfully accomplish their duties.

The Critical Tasks identified become learning objectives which are the foundation of lesson plans. The goal of the CTSB is to complete a Critical Task List and Individual Task Analysis Report to send to the TQ Director for approval. Once the Board reaches consensus, the Training and Development Division Team will plan the course design and then submit a course design document for TQ Director approval. Course development/redevelopment does not take place until these steps are complete. Training and Development Division's goal is to complete revised courseware one year from CTSB completion.

The current schedule is for PHMSA TQ to complete the CTSB meetings for all courses addressing risk assessment by December 31, 2017, and the training materials identified for revision within the IM curriculum will be addressed during the course redevelopment activities to ensure risk assessment is clearly explained throughout the process. PHMSA TQ will post revised web-based training materials and course materials for students who have previously taken the courses to have available as continuing education.

NTSB Safety Recommendation P-15-12:

Recommendation: *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.*

Response: On September 9-10, 2015, PHMSA held a risk modeling workshop to address how operators may move beyond risk index models where needed to improve investigative and forensic capabilities, and to enhance stakeholder engagement. After the September 9-10, 2015, risk modeling workshop, PHMSA established a risk modeling work group that includes industry and other stakeholders, to address perceived shortcomings in the application of certain risk models. The expected outcome of this work group is guidance on risk assessment approaches

currently allowed by the gas integrity management regulations. This guidance will be communicated to stakeholders through an advisory bulletin. PHMSA originally anticipated publishing guidance by May 31, 2016, however, to allow for critical stakeholder involvement, as discussed during the workshop, we now expect to publish guidance by July 31, 2017.

NTSB Safety Recommendation P-15-13:

Recommendation: *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.*

Response: PHMSA sponsors Research & Development (R&D) projects which, among other things, focus on providing near-term solutions that will increase the safety and reliability of the Nation's pipelines. The existing R&D portfolio includes risk model-oriented projects in areas such as: (1) reviewing candidate models from inside/outside pipeline industry based on their suitability to pipelines and the models' operational, regulatory and business realities, including usage of decision theory to optimize risk; (2) approaches for preventing catastrophic events; and (3) risk tolerance. We awarded three projects on September 30, 2015: Approaches for Preventing Catastrophic Events (<http://primis.phmsa.dot.gov/matrix/PrjHome.rdm?prj=638>), White Paper on Risk Tolerance (<http://primis.phmsa.dot.gov/matrix/PrjHome.rdm?prj=639>), and Critical Review of Candidate Pipeline Risk Models (<http://primis.phmsa.dot.gov/matrix/PrjHome.rdm?prj=656>). Insights and lessons learned from these projects will inform, as appropriate, the revision of PHMSA's guidance on risk assessment approaches.

On September 9-10, 2015, PHMSA held a risk modeling workshop to address how operators may move beyond risk index models where needed to improve investigative and forensic capabilities, and to enhance stakeholder engagement. After the September 9-10, 2015, risk modeling workshop, PHMSA established a risk modeling work group that includes industry and other stakeholders, to address perceived shortcomings in the application of certain risk models. The expected outcome of this work group is guidance on critical components of risk assessment management. This guidance will be communicated to stakeholders through an advisory bulletin. PHMSA expects to publish guidance by July 31, 2017.

NTSB Safety Recommendation P-15-14

Recommendation: *Revise 49 Code of Federal Regulations Section 192.915 to require all personnel involved in IM programs to meet minimum professional qualification criteria.*

Response: PHMSA will request from NTSB a change in status of this response from Open Unacceptable Response to Open Acceptable Response. PHMSA agrees with the intent of the NTSB's recommendation that persons involved in IM programs should meet minimum professional qualification criteria. PHMSA regulations at 49 CFR 192.915 set forth the qualification requirement for, among others, persons supervising IM programs, carrying out

assessments, evaluating assessment results, and implementing preventive and mitigative measures. For example, PHMSA regulations require:

- Any person who qualifies as a supervisor for the integrity management program to have appropriate training or experience in the area for which the person is responsible. 49 CFR 192.915(a). Operator personnel involved in IM programs receive on-the-job training under the supervision of a qualified person.
- Any person who conducts an integrity assessment allowed under this subpart to be qualified, and, as these are covered tasks, this qualification requirement is covered by Title 49, Part 192, Subpart N, *Qualification of Pipeline Personnel*. 49 CFR 192.915(b)(1).
- Any person who reviews and analyzes the results from an integrity assessment and evaluation to be qualified. 49 CFR 192.915(b)(2). This qualification is typically covered by the consensus standard originally approved in 2005⁴, Personnel Qualification and Certification for In-line Inspection Technologies Used in the Examination of Pipelines (ASNT-ILI-PQ), which established minimum qualification and certification requirements for in-line inspection personnel.
- Any person who implements preventive and mitigative measures to be qualified, including, but not limited to, integrity engineers and others involved in the determination of risk reduction measures that are implemented. 49 CFR 192.915(c). Installation of preventive and mitigative measures involves some tasks, such as marking and locating buried structures and excavation activities, covered by Title 49, Part 192, Subpart N, *Qualification of Pipeline Personnel*.
- Any person who directly supervises excavation work carried out in conjunction with an integrity assessment to be qualified. 49 CFR 192.915(c)(2).

To support the NTSB recommendation, PHMSA intends to issue an Advisory Bulletin no later than December 31, 2016, to remind operators and contractors of their regulatory responsibility to include the training and qualification requirements for IM personnel in accordance with Section 192.915 and, further, ASME Standard B31.8S, *Managing System Integrity of Gas Pipelines*.

NTSB Safety Recommendation P-15-15:

Recommendation: *Revise Form F7100.1, Annual Report Form, to collect information about which methods of high consequence area identification and risk assessment approaches were used.*

Response: PHMSA agrees with the NTSB that information about HCA identification methods and risk assessment approaches should be collected, however PHMSA believes this data would

⁴ Developed by the American Society for Nondestructive Testing (ASNT), and approved by the American National Standards Institute (ANSI).

be best obtained as a data attribute in the NPMS geospatial information collection initiative discussed in PHMSA's response to NTSB Recommendation P-15-5.

NTSB Safety Recommendation P-15-16:

Recommendation: *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.*

Response: On May 13, 2016, PHMSA published a federal register notice in docket PHMSA-2015-0205 proposing changes to Form F7100.2. We are proposing to collect two cycles of integrity inspection data for the incident location instead of just the most recent cycle. The type of inspections conducted directly correlates to the threats evaluated by the inspection. Regarding multiple root causes, PHMSA does not intend to alter Part G of the form, entitled, "Apparent Cause," to retain the ability to document and report an incident with a single predominant cause. A new part is proposed for the report allowing the operator to select multiple contributing factors when multiple threats/causes interacted. PHMSA will evaluate comments to the May 13, 2016, Federal Register notice and ask OMB to approve the proposal by December 31, 2016.

NTSB Safety Recommendation P-15-17:

Recommendation: *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.*

Response: PHMSA will evaluate the method for conducting the analysis to include potential changes to our investigation and data systems and communicate our findings to the NTSB within six months of completing the actions described under P-15-15 and P-15-16.

NTSB Safety Recommendation P-15-18:

Recommendation: *Require that all natural gas transmission pipelines be capable of being in-line inspected by either reconfiguring 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. (Supersedes Safety Recommendation P-11-17, which is classified "Closed—Superseded.")*

Response: The Gas Transmission NPRM published on April 8, 2016, as drafted, would enhance and expand minimum requirements for the selection and use of integrity assessment methods. It is proposed that direct assessment is allowed only if the line is not capable of inspection by internal inspection tools and is not practical to assess using other methods within the IM

requirements. PHMSA has proposed revised or new language in several areas of the NPRM that restrict the use of direct assessment as an integrity assessment method, as follows:

- §192.150(a) that requires, except as provided in paragraphs (b) and (c) of this section, each new transmission line and each replacement of line pipe, valve, fitting, or other line component in a transmission line must be designed and constructed to accommodate the passage of instrumented internal inspection devices, in accordance with the requirements and recommendations in NACE SP0102-2010, Section 7 (incorporated by reference, see §192.7).
- § 192.624 (c)(3)(i) on in-line inspection added language describing that if the segment does not have records for a pressure test in accordance with subpart J and § 192.624(c)(1), where the operator uses engineering critical assessment (ECA), the operator must develop and implement an inline inspection (ILI) program using tools that can detect wall loss, deformation from dents, wrinkle bends, ovalities, expansion, seam defects including cracking and selective seam weld corrosion, longitudinal, circumferential and girth weld cracks, hard spot cracking, and stress corrosion cracking. At a minimum, the operator must conduct an assessment using high resolution magnetic flux leakage (MFL) tool, a high resolution deformation tool, and either an electromagnetic acoustic transducer (EMAT) or ultrasonic testing (UT) tool.
- § 192.710 added to require that a significant portion of pipelines not covered by subpart O be periodically assessed using integrity assessment techniques similar to those proposed for HCA segments. Specifically, PHMSA proposes to require that all pipeline segments in class 3 and class 4 locations and moderate consequence area as defined in § 192.3 be periodically assessed. The use of direct assessment is proposed to be allowed only if the line is not capable of inspection by internal inspection tools and is not practical to assess (due to low operating pressures and flows, lack of inspection technology, and critical delivery areas such as hospitals and nursing homes).
- §§ 192.921 and 192.937 revised to (1) allow direct assessment only if a line is not capable of inspection by internal inspection tools; (2) add a newly defined assessment method: “spike” hydrostatic test; (3) add excavation and in situ direct examination as an allowed assessment method; and (4) add guided wave ultrasonic testing (GWUT) as an allowed assessment method.

NTSB Safety Recommendation P-15-20:

Recommendation: *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.*

Response: PHMSA believes it will meet the intent of this recommendation by incorporating by reference into its Gas Transmission NPRM the consensus industry standard NACE SP0102-2010 (formerly RP0102), In-Line Inspection of Pipelines. NACE SP0102-2010 outlines a process by which pipeline operators can plan, organize, and execute in-line inspection projects.

NTSB Safety Recommendation P-15-21:

Recommendation: *Develop and implement a plan for eliminating the use of direct assessment as the sole integrity assessment method for gas transmission pipelines*

Response: At this time, PHMSA is not able to eliminate the use of direct assessment as the sole integrity assessment method for gas transmission pipelines. The Pipeline Safety Statute, Section 60102(m), Inspections By Direct Assessment, states that the Secretary shall issue regulations prescribing standards for inspection of a pipeline facility by direct assessment.

The Gas Transmission NPRM published on April 8, 2016, as drafted, would allow the use of direct assessment only in instances where the line is not capable of inspection by internal inspection tools or where it is not practical to assess using pressure testing or other methods specified (due to low operating pressures and flows, lack of inspection technology, and critical delivery areas such as hospitals and nursing homes). PHMSA believes that this will meet the intent of the recommendation.

NTSB Safety Recommendation P-15-22:

Recommendation: *Develop and implement a plan for all segments of the pipeline industry to improve data integration for IM through the use of geographic information systems.*

Response: The Gas Transmission NPRM published on April 8, 2016, as drafted, would enhance and expand minimum requirements for performing risk assessment and threat identification to include specific requirements to address standards for minimum data sets used, data validation, data integration (including identification and analysis of spatial relationships), and subject matter expert bias. PHMSA believes that these improved requirements will address certain root cause of previous shortcomings in current data integration, by improving operator understanding of data integration requirements, and will address this recommendation.

PHMSA proposes to understand the effect of these new regulations on GIS implementation, to include a cost-benefit assessment.

