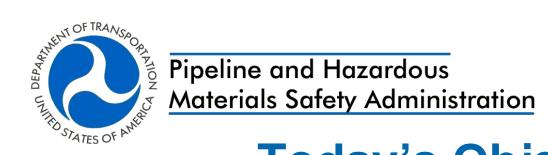


Class Location Requirements for Gas Pipelines

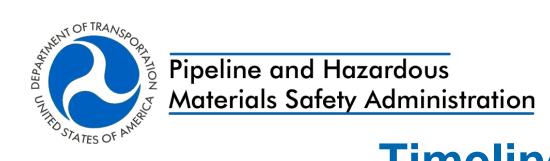
Alan Mayberry

February 25, 2014



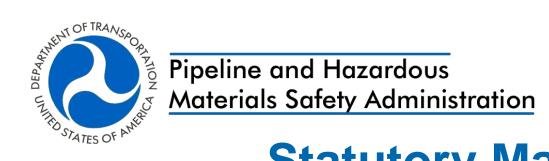
Today's Objectives

- Update committee on status of Section 5, statutory mandate
- Provide overview and status
- Review comments received so far
- Conclusion



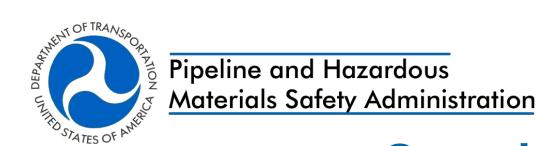
Timeline

- August 25, 2011: ANPRM Gas (outside HCAs)
- January 3, 2012, Program Reauthorized
- August 1, 2013: Notice of Inquiry (class locations)
- February 25, 2014: Update to PAC
- April 16, 2014: Class Location Workshop
- Early Summer: Complete Report



Statutory Mandate

- Section 5 of the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011
 - requires PHMSA to evaluate and issue a report on whether Integrity Management Program (IMP) requirements, or elements of IMP, should be expanded beyond high consequence areas (HCAs), and
 - with respect to <u>gas transmission pipeline facilities</u>, whether applying IMP requirements to additional areas would mitigate the need for class location requirements.



Overview

Where do we go?

- Class location (No Change)
- New Class location definition
- HCAs modified
- Other Methods

How should it apply?

- Gas Transmission, Distribution, and/or Gas Gathering
- Interstate and/or Intrastate
- Operating Stress Level
- Diameter and/or MAOP





Class Location

Class locations:

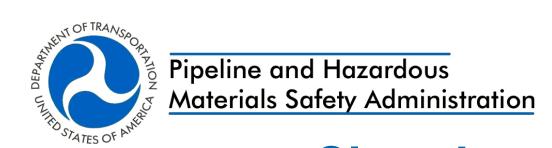
- provide a safety margin based on population density;
- drive design, construction, operations and maintenance requirements for gas transmission pipelines;
- are classes from 1 (rural) to 4 (densely populated).
- determined by counting the number of buildings suitable for human occupancy within 660 feet;
- derived from the ASME, "Gas Transmission and Distribution Pipeline Systems," (ASME B31.8); and
- is not determined based upon pipe diameter, operating pressure, or potential impact radius.



Class Location

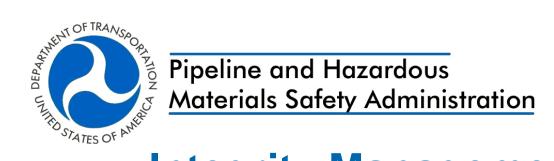
Class locations:

- designate more stringent requirements on those higher classes as population density grows.
- uses more stringent factors for :
 - Maximum Allowable Operating Pressure
 - O&M inspection intervals
 - Test pressures
 - Girth weld non-destructive testing (NDE)
- design factors used are 0.72 for Class 1, 0.60 for Class 2, 0.50 for Class 3, and 0.40 for Class 4.



Class Location

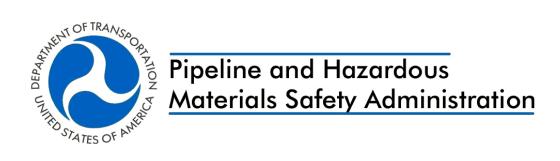
- As population grows and more people live or work near the pipeline a class change may occur.
- Class location change operator options:
 - reduce the pipeline segment MAOP;
 - replace the existing pipe; or
 - conduct a pressure test to establish MAOP for a class change (1-class change bump).



Integrity Management Approach

Gas Integrity Management:

- Uses high consequence areas (HCAs) to identify areas of higher risk along pipelines.
- HCAs are defined by number of buildings or an identified sites, where people congregate or where they are confined within a calculated potential impact radius (PIR).
- PIRs are calculated based on pipe diameter, MAOP, and heat of combustion for natural gas.



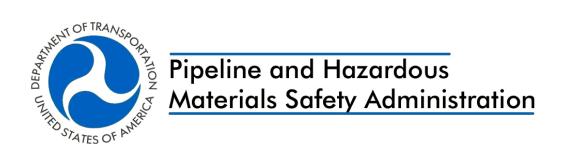
Integrity Management Approach

Pipeline segments in HCAs are:

 subject to ongoing integrity/threat assessments and remediation of anomalies.

HCAs require an operator to:

 assess and remediate the pipeline segment, but are not used to establish MAOP or perform operational inspections.



Purpose of Class Locations and IM

Class locations:

 Used for design, MAOP determination, construction, testing and operational inspection and remediation activities.

HCAs:

- Designed to determine if a pipeline segment is included in an integrity management program for risk and consequences
- Used in making designations of areas requiring ongoing threat assessments.



Part 192 Impacted by Class Location

Subpart A – General

Subpart B – Materials – *Pipe Wall Thickness or Grade/Strength*

Subpart C - Pipe Design – *Operating Pressures*

Subpart D - Design of Pipeline Component- Operating Pressures

Subpart E - Welding of Steel in Pipelines - Non-destructive Tests

Subpart G - General Construction Reqts. - Depth of Cover

Subpart I – Reqts. for Corrosion Control – Corrosion Repairs

Subpart J - Test Requirements - Pressure Test Factor

Subpart K – Uprating – MAOP, Test Pressure, Class Loc., & Repair

Subpart L—Operations – Class Location and MAOP

Subpart M—Maintenance – *Inspection Intervals*

Subpart O—Gas Transmission Pipeline IM - HCAs - Method 1

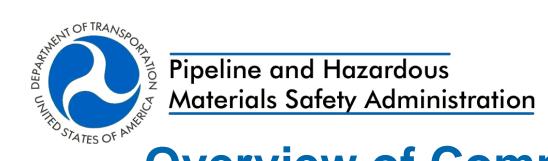
Pipeline and Hazardous Materials Safety Administration

Overview of Comments on IM Expansion (ANPRM)

Public Comments:

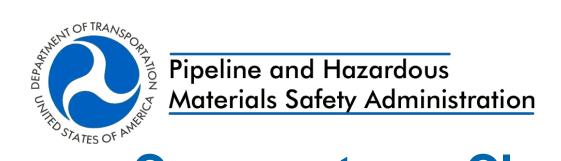
OF TRANSP

- Revise the IM to include more mileage (e.g., include entire Class 3 and 4 area in lieu of only the potentially impacted area inside Class 3 & 4) and critical infrastructure.
- IM plans for densely populated areas (Class 4) and for a new Class 5 encompassing cities with population greater than 100,000, be developed in consultation with local emergency responders.



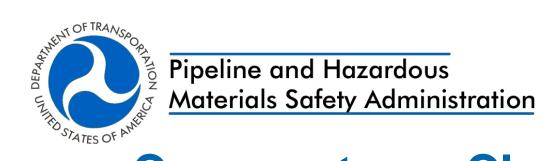
Overview of Comments on IM Expansion (ANPRM)

- **Industry**: Application of IM principles to non-HCA areas should be left to industry as a voluntary effort.
- NAPSR: Prefer the current class location system
- The Jersey City Mayor's office: Current class system does not sufficiently reflect high density urban areas, and petitioned PHMSA to add three (3) new class locations.



Industry Overview of Comments:

- Keep class locations intact for existing pipelines.
- Allow a PIR approach to be used for new pipelines and when Class locations change.
- Class locations imbedded in regulations and adopting a single design factor approach would be too complicated to implement.
- Stakeholders need to be involved before any rulemaking is made.



AGA:

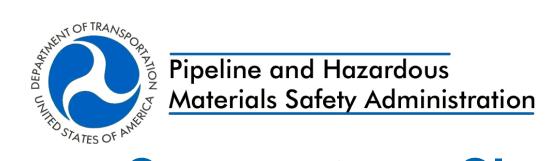
 Allow operators to choose method for design factors, existing class locations or PIR (HCA method).

API:

 Without Class locations it is not possible to determine regulatory status of gathering lines.

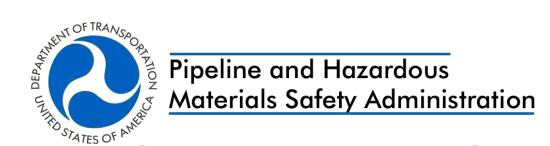
APGA:

- Limit to pipelines operating ≥ 30% SMYS.
- Revise definition of a transmission pipeline.



• INGAA:

- IM should be extended beyond HCAs.
- Allow either existing class locations or PIR method.
- Revise certain operation and maintenance requirements that may no longer be necessary given new technology and integrity management activities.

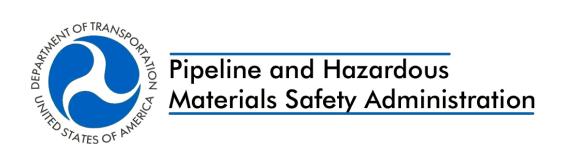


Iowa Utilities Board

- Keep existing class locations.
- Add additional safety to buildings outside small radius PIRs.

Iowa Assoc. of Municipal Utilities

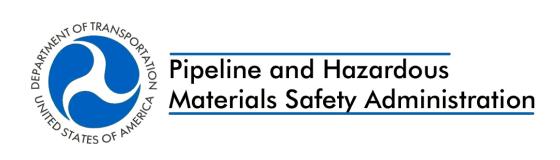
- New regulations would impose new and significant costs to operators of small diameter, low pressure pipelines.
- Revise definition of transmission pipeline.



Pipeline Safety Trust:

- Supports applying IM beyond HCAs.
- Expand class location definitions.
- Strengthen existing Integrity
 Management rule.





Conclusion